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3. SUPPORTING PROCESSES AND PROCEDURES

3.1 Overview

This section of the O&M Plan for the OU 7-10 Glovebox Excavator Method Project includes a description of the plan elements at a companywide level that support the safe and efficient implementation of project O&M.

3.2 Conduct of Operations

3.2.1 Purpose

This section of the project O&M Plan addresses the policies and procedures specific to conduct of operations. Adherence to procedures fosters the safe and effective performance and control of project operations. Conduct of Operations procedures specify the standards for operations, periodic performance monitoring and assessment, and measures by which personnel will be held accountable. The project operations procedures and policies include the integration of principles defined within the ISMS.

The DOE Order 5480.19 provides the requirements and guidelines for use in developing directives, plans, and procedures to implement a Conduct of Operations process. The INEEL Conduct of Operations process uses these requirements and guidelines to ensure operations are managed, organized, and conducted in a manner that ensures safe and efficient facility operations.

Companywide Manual 9 establishes the Conduct of Operations process at the INEEL. The process consists of 17 chapters implemented by companywide MCPs that direct implementing processes and actions. The project operations management will establish supplemental documentation, as needed, to provide the level of detail necessary to implement Conduct of Operations at the facility level.

The elements of Conduct of Operations include the following:

- Operations organization and administration
- Shift routines and operating practices
- Control area activities
- Operations communications
- Control of on-shift training
- Event investigation and occurrence reporting
- Control of equipment and system status
- Lockout and tagout
- Independent verification
- Logkeeping

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- Operations turnover
- Required reading
- Timely orders to operators
- Operations procedures
- Operator aids
- Equipment and piping labeling.

3.2.2 Operations Organization and Administration

The MCP-2973, "Chapter I - Operations Organization and Administration," establishes operating standards and expected performance levels, and it defines requirements for conducting facility operations and activities in a safe and professional manner consistent with the INEEL standards of excellence philosophy under which facilities will be operated.

Operations is the onsite organization responsible for project facility operation and may include offsite personnel who provide operational support. Roles and responsibilities for Operations personnel whose functions are key to ensuring a safe working environment are detailed in Section 1.3, "Organizational Structure."

3.2.3 Shift Routines and Operating Practices

The MCP-2974, "Chapter II - Shift Routines and Operating Practices," provides the minimum standards for professional conduct and good watch-standing practices that result in appropriate attention to facility conditions and emphasizes effective equipment monitoring that is necessary to detect abnormal conditions or adverse trends so that appropriate action can be taken before equipment malfunction occurs. This procedure applies to watch-standing monitoring activities at all INEEL facilities and to other important aspects of routine activities performed by Operations personnel.

The project operations management ensures that standards for professional conduct are established and that good watch-standing practices are followed such that performance meets management's expectations. Operations personnel are responsible for safely operating facilities by adhering to operating procedures, TSRs, and sound operating practices.

3.2.3.1 Status Practices. Procedures specify that personnel promptly notify the project shift supervisor (or other cognizant manager or supervisor) and (if applicable) the control area operator responsible for the facility or activity of all changes in facility status, abnormalities, and difficulties encountered in performing assigned tasks, or other unexpected situations.

3.2.3.2 Safety Practices. Personnel comply with facility Industrial Safety Program requirements, the *Health and Safety Plan for OU 7-10 Glovebox Excavator Method Project Operations* (INEEL 2002b), and all prescribed safety precautions and regulations. Any activity that violates safety rules or poses a threat to personnel safety is stopped and reported immediately. Personnel observe facility safety standards and guides, such as wearing proper hearing, eye, head, respiratory, and foot protection in designated areas, and being alert for hazardous conditions. Hazardous conditions are reported upon discovery.

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3.2.3.3 Tour/Round Sheets. Requirements for conducting inspections and surveillances are established to support project operational activities (see Section 3.4.3, "Inspections and Surveillance," for additional information). The project management will develop tour/round sheets to direct operators inspecting equipment and areas during routine tours.

3.2.3.4 Personnel Protection. Personnel follow good safety, industrial hygiene, and radiation protection practices and procedures to maintain personal exposure to radiation, chemicals, electromagnetic fields, toxic materials, and other personnel hazards ALARA. In particular, project personnel will:

- Adhere to posted personnel protection requirements and observe proper practices and precautions
- Correctly use appropriate monitoring instruments
- Be cognizant of their own exposure levels and take appropriate action to minimize exposures
- Know how to properly use work control documents (e.g., maintenance work orders, safe work permits, radiological work permits, and confined space permits)
- Promptly report protection deficiencies and hazards to their immediate supervisor, control personnel, or appropriate protection personnel
- Take appropriate immediate actions to reduce or correct the hazards
- Inform appropriate protection personnel before evolutions or activities could significantly change conditions.

Supervisory personnel periodically review exposure trends of personnel under their supervision and emphasize determining adverse factors and minimizing those factors to keep exposure ALARA.

3.2.3.5 Response to Indications. Personnel respond to information displayed by instruments, charts, printouts, valve indications, and alarms assuming those indications are accurate, and act accordingly until indications are proven inaccurate.

3.2.3.6 Resetting Protective Devices. When protective devices (e.g., circuit breakers or fuses trip) personnel attempt to discover and understand the underlying cause before resetting the device. Using the appropriate abnormal operating or alarm response procedure, operators first ensure that no abnormal conditions exist that preclude resetting the protective device, and then they reset the device. Because the consequences of resetting protective devices varies considerably, operators use judgment and seek specific guidance from the cognizant system engineer, manager, or supervisor (when appropriate). When major trips and unplanned forced shutdowns occur, a thorough investigation is conducted.

3.2.3.7 Load Changes. The cognizant manager or supervisor approves all power, process, or utility services changes before initiating such changes and informs affected Operations personnel before commencing process changes, allowing sufficient time to prepare for and respond to the change. Operations personnel follow approved procedures and instructions. Under emergency conditions that require immediate action, operators respond to emergency situations as directed by the applicable emergency or abnormal operating condition procedures. Operations personnel inform the cognizant manager or supervisor after completing load changes.

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3.2.3.8 Authority to Operate Equipment. The project operations management delegates the authority to operate equipment in accordance with the following:

- Allowing only trained and qualified personnel or trainees under the direct supervision of a qualified operator to operate equipment.
- Specifying activities that may normally be performed without informing the cognizant manager or supervisor (e.g., routine minor control adjustments necessary for maintaining stable process conditions).
- Not allowing nonroutine operation of controls without specific approval of the cognizant manager or supervisor, except in emergencies.
- Allowing operators, in emergencies, to take immediate actions required for personnel, facility, public, and environmental safety without prior approval, if necessary, and directing them to promptly inform appropriate management or supervision of the emergency actions taken.
- Ensuring operators and cognizant managers or supervisors are aware of activities affecting facility equipment. Facility safety is achieved over production for abnormal and emergency conditions.

3.2.3.9 Shift Operating Bases. A shift operating base will be established for Operations personnel. A shift operating base is a convenient place within the area of responsibility for a particular shift position where an operator returns when not performing in-plant duties. Shift turnovers are normally conducted at operating bases. The operating base will be equipped with appropriate office equipment for assigned work activities, reference material, communications equipment, and administrative procedures.

3.2.3.10 Potentially Distractive Written Materials and Devices. Nonjob-related reading material will not be read at watch stations. This includes newspapers, magazines, paperbacks, and catalogs. Studying, reading, and reviewing job-related technical material is permitted at watch stations if operation of that area is not jeopardized. Entertainment devices (e.g., radios, televisions, tape players, and computer games) are prohibited.

3.2.3.11 Professional Behavior. All personnel display professional behavior in control areas and minimize nonjob-related discussions. Only activities essential to supporting operations and activities authorized by management are conducted in the control area. Potentially distracting activities are prohibited.

3.2.4 Control Area Activities

The MCP-2975, "Chapter III - Control Area Activities," provides the minimum standards for identification and control of designated control area activities, in support of safe and efficient project facility operation. This procedure applies to the control of areas that are critical operating bases and the coordination point for important operating activities, and to all personnel who are likely to enter a controlled area in the course of their activities.

Control area access is limited to those persons on official business only. Access to at-the-controls areas is restricted to persons on official business who need to be in the area. At-the-controls areas will be identified before facility startup and their boundaries will be well marked.

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3.2.4.1 Monitoring Main Control Boards. Assigned personnel frequently monitor control panel indications and, if abnormalities occur, take prompt action (in accordance with applicable procedures) to determine the cause and correct abnormalities. Indications are analyzed for trends to detect possible problems early. The number of evolutions affecting control panel indications is limited to avoid compromising the operator's ability to detect and respond to abnormal conditions. All reasonable actions are taken to correct alarm causes or clear alarming conditions. Where computer or automated systems are in place, appropriate backup to those systems is also in place.

3.2.4.2 Control Operator Ancillary Duties. Duties assigned to on-watch operators do not interfere with their ability to monitor facility parameters. Operations personnel are attentive and responsive to operating parameters. Operators are not distracted from assigned duties. The administrative workload of operators is minimized, and their duties are limited to activities that support safe and reliable operations.

Training materials, technical manuals, procedures, operator aids, or other written, audible, or visual materials that relate to operator duties are used, provided that the operator's primary duties are not compromised. Steps are taken to minimize activities that have the potential to interfere with the duties of operations personnel.

3.2.4.3 Control Area Equipment Operation. The cognizant manager or supervisor ensures that only qualified operators operate control area equipment. When trainees operate control area equipment, they are supervised and controlled by the qualified operator who would normally perform the operation.

Until a trainee has demonstrated reasonable proficiency in an operation, the trainee discusses the procedure steps, cautions, and notes with the on-shift training instructor before conducting the operation. The instructor always monitors the trainee closely and remains in a position to intervene or assume control if necessary.

3.2.5 Operations Communication

The MCP-2976, "Chapter IV - Operations Communications," provides the minimum standards for ensuring reliable and effective communications and applies to operations and activities where consequences of miscommunication can lead to unacceptable risk to personnel, the public, or the environment. Communications include oral (i.e., face-to-face), telephone, radio, public address (page) announcements, personal pagers, sound-powered phones, and special forms such as horns, lights, and bells.

3.2.5.1 Emergency Communications System. An emergency communications system is used to promptly convey information to personnel in the event of emergencies or occurrences. The emergency communications system is an essential communications element that is administratively controlled to retain its effectiveness and is used only by authorized personnel.

The emergency communications system is used to advise personnel during drills, exercises, and surveillance tests.

3.2.5.2 Public Address System. The public address system is administratively controlled to ensure it retains its effectiveness. Excessive use of the public address system for personnel or unnecessary announcements is avoided; excessive use of this system can reduce the impact of important announcements and can be distracting. Telephones and other point-to-point communications are used instead of the public address system whenever practical.

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3.2.5.3 Contacting Operations Personnel. Methods are implemented to ensure that control area personnel can quickly contact operators or supervisors. Special consideration is given to contacting operators in high-noise areas where a page may not be heard.

3.2.5.4 Radios. Where appropriate, radios may be used to provide mobile point-to-point communications. Instructions (preferably in writing) are provided regarding available radio frequencies (channels). Portable radios are not to be used in areas where electronic interference with equipment may result. Areas where radio use is prohibited are posted, indicating exclusion distances as appropriate.

Radio communications are tested before conducting any critical procedure or activity that requires the use of radio communications. Radio equipment used in normal operations may also be used for communications during an emergency.

3.2.5.5 Oral Instructions and Informational Communications. Verbal communications are clear and concise. Multiple actions that could be confused or misunderstood are written or given in short directions. Only commonly agreed upon terms are used. Verbal communications are specific. The correct unit or equipment component is identified. Names and equipment numbers are used together to ensure that the instruction is properly transmitted and received.

The recipient of a communication repeats back any instruction received involving the operation of equipment.

3.2.6 Control of On-Shift Training

The MCP-2977, "Chapter V - Control of On-Shift Training," provides the minimum standards for the control of on-shift training in situations where a trainee must perform under an instructor's supervision. These standards prevent errors by the trainee that might affect safety of a facility or equipment. This procedure applies to training and qualification programs in which the trainee receives formal training within the job environment. This period of instruction is controlled by qualified personnel because the operation of equipment is usually involved.

The project operations management ensures that whenever trainees operate equipment, a qualified instructor monitors the trainee closely and remains in a position to intervene or assume control to ensure safe and reliable operation. Until trainees have demonstrated adequate understanding of an operation, they discuss the procedural steps, safety cautions, and notes with the instructor before performing the operation.

3.2.7 Event Investigation and Occurrence Reporting

The MCP-190, "Event Investigation and Occurrence Reporting," provides a system for reporting abnormal events to the appropriate management levels, investigating those events, identifying the causes, and providing for appropriate corrective actions. The project has established a process for event and condition reporting that includes identifying, categorizing, notifying, investigating, and disseminating written reports of events and conditions to DOE and company management in a timely manner.

This process ensures causes are properly identified and corrected and that lessons learned from the event are communicated to affected personnel to prevent recurrence.

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Reporting project operating status and conditions, as required under the FFA/CO and CERCLA requirements, is addressed under Section 2.4, "Operations and Maintenance Reporting and Project Closeout."

3.2.8 Control of Equipment and System Status

The MCP-2978, "Chapter VIII - Control of Equipment and System Status," establishes equipment and system control to ensure the safety of employees, the public, and the environment, and describes the level of formality required in activities to maintain this control. This procedure applies to the control of equipment and systems that enable the facility to operate within its safety and operating limits. This also includes nonsafety-related equipment and systems that function for operational purposes.

3.2.9 Lockout and Tagout

The MCP-3650, "Chapter IX Level I Lockouts and Tagouts," and MCP-3651, "Chapter IX Level II Lockouts and Tagouts," have been developed and a training program has been established to provide instruction for planning, placement, verification, and removal of locks and tags to protect employees from hazardous energy sources and unexpected energizing or startup of equipment that could cause personal injury.

These procedure implement contractor requirements for the control of hazardous energy as defined in 29 CFR 1910, "Occupational Safety and Health Administration," and DOE Order 5480.19. These requirements apply to activities in which there is a potential for personnel injury or equipment damage during equipment operation, servicing, maintenance, or modification because of unexpected energizing or startup of machines or equipment or release of hazardous energy.

3.2.10 Independent Verification

The MCP-2979, "Chapter X - Independent Verification," provides the minimum standards for performing independent verification of the correct positioning of components that are critical to the safe operation of project processes, system, or facility. Independent verification provides a high degree of reliability in ensuring correct facility operation and correct positioning of components such as valves, switches, and circuit breakers. This procedure applies to safety-related and nonsafety-related components, where inappropriate positioning of a component could lead to facility shutdowns, challenges to safety-related equipment, or other undesirable effects on facility safety and reliability.

3.2.11 Logkeeping

The MCP-2980, "Chapter XI - Logkeeping," provides the minimum standards for establishing and maintaining operating logs for recording the data necessary to provide an accurate history of facility operations. This procedure applies to key positions or stations specific to shift, daily, and part-time facility operations and processes that could produce significant impact on operations; environment, safety, and health (ES&H); or programmatic parameters. Based on inputs from supervisors, program and functional managers, and appropriate disciplines, project operations management will establish operating logs at key positions or watch stations. Information regarding activities or events will be recorded factually and promptly throughout the shift to ensure the accuracy of the entry.

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The MCP-2981, "Chapter XII - Operations Turnover," provides the minimum standards to be followed during operations turnover to ensure that oncoming personnel are provided pertinent information pertaining to the overall status of the operation. This procedure applies to turnover from one shift to another, temporary relief during the shift for whatever the reason (regardless of duration), and turnover where the facility or process is changed from or to a staffed or unstaffed status (e.g., single-shift operation).

Personnel do not assume operational duties unless they are physically and mentally fit to do so and the off-going personnel have a high degree of confidence that an appropriate information transfer has taken place.

Oncoming personnel conduct a comprehensive review of appropriate written (logs and records) and visual (equipment, panels, and control boards) information before responsibility for the operational position is transferred. Turnover checklists will be used, as needed, to facilitate operations turnover.

3.2.12.1 Walk-downs. Operations personnel will conduct walk-downs of control panels to determine or confirm operational status before, during, or shortly after shift turnover. If facility conditions are stable, the off-going shift discusses and explains any important items that affect facility operations and safety with the oncoming shift or relief personnel. Oncoming personnel ask questions at turnover to satisfy the need for a complete understanding of responsibilities.

When all Operations personnel are satisfied that the oncoming crew is fully cognizant of facility conditions, the oncoming supervisor or operator documents that they have assumed responsibility for the position by making an entry in the log.

3.2.12.2 Shift Crew Briefing. Shift supervisors conduct shift briefings for personnel after assuming responsibility for the shift. Topics of discussion include a review of facility status, any new and continuing problems with systems or equipment, work in progress and planned for the shift, any changes in personnel assignments, and any other appropriate subjects. The project operations management or supervision may request that support personnel (for example, contractors; vendors; test groups; environmental, safety, health, and quality professionals; and maintenance) attend the shift crew briefing when their activities can directly affect operations.

When shifting the facility from a staffed to unstaffed condition (e.g., after single-shift operation), the off-going operator or supervisor ensures that the facility or operation is in a safe and stable configuration.

3.2.13 Required Reading

The MCP-2983, "Chapter XIV - Required Reading," provides the minimum standards for establishing a uniform, formal, required reading program to ensure that operations personnel are made aware of information related to their job assignment. This procedure applies to project personnel that require essential information to safely operate a facility or process. Any information that relates to operation of the facility or process and requires formal documentation that the information has been reviewed and understood will be incorporated into the required reading program.

Personnel are informed of information important to their assignments. Cognizant managers or supervisors and staff screen reading material and identify the appropriate documents to be entered in a

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required reading file. Only those documents important to the operation of a facility or process are placed in a required reading program. The project operations management designates the required documents for reading by appropriate personnel.

The project personnel complete required reading in a timely manner (i.e., before required completion dates). The project operations personnel read documents designated as "immediate read" before performing any affected evolution or assuming responsibility for the shift position.

The project operations management ensures that completion of required reading is documented and maintained in accordance with the facility Records Management Program.

3.2.14 Timely Orders to Operators

The MCP-2984, "Chapter XV - Timely Orders to Operators," provides the minimum standards for the dissemination of essential information and administrative instructions to Operations personnel and establishes the requirement for periodic reviews of documentation to remove outdated or obsolete information. Timely orders apply to Operations personnel in circumstances where it is necessary to disseminate dated information or instructions, administrative details, or ES&H concerns.

Timely orders are issued by the cognizant manager, supervisor, or designee whenever it is necessary to communicate information to Operations personnel. Timely orders may include information such as the following:

- Special operations
- Administrative directions
- Special data-collection requirements
- Plotting process parameters
- Work priorities
- Shift instructions.

Timely orders are not used to change procedures.

Timely orders are reviewed and updated as necessary by cognizant managers or supervisors to ensure that only applicable and current orders remain in effect. Timely orders containing information and policies intended to become permanent are incorporated into appropriate administrative procedures. Those orders that are outdated or no longer applicable are promptly removed or cancelled.

3.2.15 Operations Procedures

The MCP-2985 provides the minimum standards for the preparation, approval, and control of operations procedures. Operations procedures provide specific direction for operating systems and equipment during normal and postulated abnormal and emergency or casualty conditions. This procedure applies to activities that require operational procedures to support safe operation of the facility or activity while ensuring environmental, safety, health, and quality compliance. Included are TPRs and emergency, abnormal operating, and alarm response procedures (EAR). Operations procedures are being developed

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for anticipated tests, operations, and abnormal or emergency situations (refer to the procedure outlines in Appendices A through C).

3.2.15.1 Procedure Use. The project facility operations that require specific direction for operating systems and equipment are conducted in accordance with written and approved operations procedures. The project operations management or supervisor ensures:

- Adequate operations procedures are available for use by operators
- Operators are trained and clearly understand their responsibilities for using operations procedures.

If an operations procedure is deficient or cannot be followed as written, the operation is stopped, the cognizant manager or supervisor informed, and a procedure change or revision initiated. If an operations procedure does not identify equipment as it is labeled in the facility, then the operation is stopped, the cognizant manager or supervisor informed, and the procedure changed or the label deficiency corrected.

The project operations personnel use and follow operations procedures as written. Personnel adhere to the requirements of industrial safety, industrial hygiene, and radiation protection programs. Work control documents (e.g., maintenance work orders, safe work permits, radiological work permits, confined space permits, job safety analysis, and posted signs) establish personnel safety and protection requirements.

3.2.16 Operator Aids

The MCP-2986, "Chapter XVII - Operator Aids," provides the minimum standards to ensure operator aids are current, correct, and useful, and applies to the identification, approval, control, and use of operator aids that are used by operators. Examples include posted charts, notes, graphs, valve alignments, attachments or portions of procedures posted for operator reference, or drawings intended to be referenced by operators. Informational signs that do not include instructions for operation of equipment are not operator aids.

Any employee may develop an operator aid if the information would benefit facility operation. The project operations management reviews any proposed operator aid and ensures it is necessary, correct, and does not conflict with approved procedures or other approved documents. Operator aids are a convenience to the person using them, not a requirement. The operator aids remind users of information that might otherwise be overlooked or provide guidance that is not procedural in nature. They may supplement approved procedures, but they are not used to replace approved procedures.

3.2.17 Equipment and Piping Labeling

MCP-2987, "Chapter XVIII - Equipment and Piping Labeling," provides the minimum standards for labeling equipment and piping to enable personnel to positively identify facility systems and equipment. Labeling requirements apply to equipment and piping normally installed as permanent fixtures in operating facilities.

Components that are typically labeled include the following:

- Valves
- Major equipment

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- Switches
- Circuit breakers
- Fuse blocks or fuse locations
- Instruments and gauges
- Buses and motor control centers
- Electrical cabinets
- Room doors
- Emergency equipment
- Fire protection systems.

The project operations management will ensure the proper field labeling of existing systems and equipment and proper replacement of damaged, lost, or incorrect labels. Management will establish a system to reserve, assign, and track system and equipment labels.

3.3 Operations Authorization

The ISMS is the method by which work control processes are implemented for maintenance, construction, and environmental restoration and D&D&D work activities. It provides a single process by which work is performed, and it ensures that work is screened consistently to uniform criteria and hazards are appropriately identified, analyzed, and controlled.

The project work processes incorporates the ISMS guiding principles and the five core functions, ensuring that work activities are conducted safely and in accordance with operating procedures and safety requirements.

Regardless of complexity, all project operations and maintenance work activities are undertaken with full understanding by each employee involved that they are individually responsible for their own safety and the safety of others involved in or affected by the activity. Employees are qualified through training and experience to perform the tasks assigned them. They understand that they are required to follow established procedures or work guidance documents for the work being undertaken. They also actively participate in developing and changing the procedures or work guidance documents they are required to follow. Employees clearly understand that they not only have the right, but also the obligation, to stop work at any time if they are aware an unsafe condition exists or have a concern related to environmental compliance and protection.

Two points are emphasized:

- Authorization to begin work largely uses a graded approach to the amount of formality and documentation required. The approach is largely based on risk and circumstance of the operational evolution.
- Every employee involved in the evolution must clearly understand the hazards and hazard controls in place before any evolution may officially begin, no matter how complex or simple the evolution.

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The NFM is responsible for authorizing all work that takes place in the project facility, regardless of the type of work or who is performing it. Once approved, work is authorized by the facility manager through the plan-of-the-day meeting and is executed according to established procedures, approved work packages, or checklists.

The project operations management is responsible for ensuring that, during work execution, controls remain in place. Line managers are experienced personnel who receive the necessary training and qualifications to carry out their assigned duties and responsibilities. Employee hazard communication training stresses hazard recognition and acceptance of individual roles and responsibilities for worker safety. Employees are also trained on their rights and responsibilities about their stop work authority.

3.4 Authorization Basis

The project facility authorization basis comprises those aspects of the facility design basis and operational requirements relied on by DOE to authorize operation. These aspects are considered to be important to the safety of facility operations.

The authorization basis is described in documents (e.g., project facility safety analysis, hazard classification documents, technical safety requirements, DOE-issued safety evaluation reports, and facility-specific commitments) made to comply with DOE orders or policies.

An authorization agreement also is established to formalize the terms and conditions (including safety, environmental, and contractual) under which the contractor is authorized by DOE to operate the project as a hazardous facility. It is a listing of those documents, restrictions, agreements, exceptions, and particulars that comprise the controls for operating a Hazard Category 2 nuclear facility.

In addition, the authorization agreement documents the results of the DOE reviews of the contractor's proposed methods for performing the defined scope of work. The authorization agreement is maintained current by the NFM or designee.

The project will have an approved authorization basis and authorization agreement in place before commencing operations.

To preserve the facility safety basis, the unreviewed safety question (USQ) process has been established by DOE to require evaluation of changes to a procedure described in the safety basis, changes to facilities described in the safety basis, and new tests or experiments. The USQ process also is used to evaluate new information that has the potential to affect the authorization basis.

3.4.1 Hazard Identification and Mitigation

The process for performing hazard identification, analysis, and control is administered through contractor procedures and is based on principles identified in the ISMS. Procedures implement the requirements for identification, analysis, and control of ES&H hazards for work planning and execution at the activity level. These requirements flow down from regulatory requirements into company-level procedures. Within the program, two primary hazard identification and analysis processes have been developed and support project activities. These two processes are implemented in the following documents:

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- MCP-3562, "Hazard Identification, Analysis, and Control of Operational Activities," for operations and environmental remediation
- STD-101 for maintenance, modifications, construction, D&D&D, and environmental remediation project activities.

Hazard analyses ensure the appropriate degree of specialist participation, commensurate with the type of work and associated hazards. These specialists are then involved in the work planning process.

The MCP-3562 is used to create a JSA report that describes the steps in a job, lists all the hazards associated with each job step, and identifies the methods for controlling or mitigating those hazards. Operations' procedures (i.e., TPRs) contain an extensive hazard screening checklist to be used by a HEG for analyzing the hazards. Through the HEG process, JSAs are produced and become controlled documents. Each TPR has an associated JSA. Facility walk-downs, document reviews, and a number of other actions are performed during this analysis process.

The STD-101, "Integrated Work Control Process," uses a Hazard Profile Screening Checklist to identify the hazards associated with maintenance work activities and the ES&H disciplines to be involved in the analysis process. A hazard mitigation guide is used to analyze the hazards and identify the controls to mitigate these hazards. This process identifies the controls and barriers for potential radiological hazards and standard industrial hazards, such as confined space, elevated work, work requiring the use of respirators, and work involving asbestos or hazardous chemicals or materials.

Additionally, because project activities are governed under CERCLA, and the project is defined as a hazardous waste operation under Occupational Safety and Health Administration *Code of Federal Regulations* (CFR) standard, 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response," a HASP has been developed, further defining hazards and appropriate mitigations.

For additional information addressing S&H programs, see Section 3.7 of this document.

3.4.2 Incorporating Lessons Learned (Feedback and Improvement)

As a demonstration project, a key objective of operations is to capture lessons learned and experience feedback that can then be used in the Stage III design activities. In addition, feedback and improvement mechanisms are in place to ensure the project provides staff personnel the opportunity to assess the effectiveness of project operations, ISMS effectiveness, and environmental compliance through analysis of data collected.

The following programs and processes are part of the safety management system:

- **Voluntary Protection Program:** The DOE VPP has been established to promote, and to give recognition to, highly effective S&H programs. The focus of VPP is on management commitment, worker involvement, work site analysis, hazard prevention and control, and S&H training. The VPP is an initiative involving all INEEL employees in the day-to-day goal of providing a safe work place. Since the approach is based on heightened awareness and training of all employees, including all operators, crafts, and support staff, VPP improves the quality of work planning and prejob safety meetings. Under VPP, each employee is actively involved in workplace safety issues and is responsible for ensuring a safe workplace. Through the DOE VPP, management, labor, and DOE establish a cooperative relationship where safety issues can be mutually identified, mitigated, and feedback provided to prevent recurrence and improve the overall safety posture of the facility.

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- **Formal internal feedback mechanisms:** Feedback and improvement occur on a continuing basis at all stages of work performance and through assessment programs. Additional feedback is gathered for analysis through various reporting systems and communication mechanisms. Feedback ensures safe performance of work by taking advantage of experience.

3.4.3 Inspections and Surveillance

The S&H inspections are conducted to identify and correct hazards in the workplace and to ensure compliance with requirements imposed by regulations, permits, and procedures applicable to the project. Management, individual workers, and S&H professionals conduct S&H inspections.

Procedures are established to address management self-inspections of industrial safety, industrial hygiene, fire protection, radiological control, and QA issues. Results from inspection activities are tracked and incorporated into project operations processes to ensure compliance with regulations and company procedures.

Routine surveillance of project operations is conducted to ensure operating processes are performed within assigned parameters. Operations personnel conduct inspection tours (rounds) during each shift to monitor and ensure equipment status. Facility security concerns do not override safety assessment duties.

Operations personnel conduct a tour of the areas within their responsibility as instructed by management. Tours will include making appropriate equipment inspection tours at designated times and at least once per shift. Tours will be conducted early in the shift with sufficient detail to determine the status of equipment (that is, operating, standby, out of service, or work in progress). Doing so allows time to respond to problems encountered during the shift, allows time to inspect equipment for proper operation, and allows time to inspect standby equipment as needed to determine that it is fully operable.

Operations personnel report abnormal conditions such as equipment vibrations, unusual noises or smells, or excessive temperatures to the cognizant manager or supervisor. Personnel check equipment panel alarm light bulbs and enunciators as needed to ensure satisfactory operation of visual and audible abnormal condition indicators.

Inspection of operational areas for deficiencies will include items such as:

- Oil and water leaks
- Fire and safety hazards
- Radiological problems
- Seismic concerns such as open electrical panels and unsecured mobile objects.

Deficiencies will be corrected and/or reported immediately, and they will be documented in accordance with the Issue Communication and Resolution Environment system.

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3.5 Idaho National Engineering and Environmental Laboratory Maintenance Program

3.5.1 Introduction

The project facilities and equipment will be maintained by the existing INEEL maintenance organization, which consists of highly trained, experienced, and skilled crafts persons who can supply professional electrical, mechanical, hydraulic, heating and ventilating, and structural maintenance and repair services to the project. All maintenance will be performed using the existing INEEL processes and controls to ensure safety, effectiveness, and timeliness of all preventive, routine, and repair activities. Maintenance activities are performed in compliance with STD-101 and the procedures and documents found in Manual 6.

The project maintenance activities will be conducted in accordance with the PLN-132, "INEEL Maintenance Implementation Plan for the RWMC." The Maintenance Implementation Plan identifies how the Maintenance Management Program will be implemented at RWMC site areas. Throughout the maintenance process, project personnel will apply the precepts of both the ISMS and the VPP.

3.5.2 Developing Maintenance Work Orders

The STD-101 implements both the ISMS and the VPP requirements for maintenance activities. Maintenance work order development activities include:

- Planning
- Hazard identification
- Hazard mitigation
- Prejob briefing
- Prejob workability walk-down
- Maintenance manager approval.

Each maintenance task is performed in compliance with a unique, formal MWO, which is developed for the specific maintenance task and includes hazard identification, hazard mitigation actions, and performance instructions for the specific task. For preventive maintenance and routine maintenance tasks, the maintenance planner outlines the scope of work in sufficient detail to capture all expected and potential hazards, mitigations, controls, and work performance requirements. The planner then completes the Hazard Screening Profile Checklist (as required by STD-101) and determines, based on the specific task and the identified hazards, which subject matter experts should be on the planning team. At this point, the planner may create a draft MWO and use it as guidance during the planning walk-down.

The planning team performs a work walk-down and helps the planner develop the MWO. Planning team composition depends on the level of uncertainty inherent in the work activity, the hazards anticipated during the performance of the work, and the complexity of the work activity. The planning supervisor ensures the appropriate planning team composition. The maintenance planner then identifies

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required materials and develops the final MWO, which is reviewed by the planning team and approved by the maintenance manager before use.

3.5.3 Preventive Maintenance

The planner creates an approved MWO to allow repeated use of the same work instructions to perform a routinely required maintenance activity, provided the work is on the same equipment, in the same location, with the same hazards, controls, initial conditions, and precautions. The MWO allows consistent application of the work requirements and enhances maintenance program efficiency. If an MWO is issued to perform repetitive preventive maintenance, then additional review by subject matter experts and approval by the maintenance manager are NOT required. Instructions for the use of MWOs are contained in Guide (GDE) -6210, "Maintenance Guide," Section 7.2.

3.5.4 Conducting Maintenance Work

The operations or facility manager reviews the MWO and authorizes access to begin work, and then the job supervisor or foreman performs a prejob briefing, using the MWO, in accordance with MCP-3003, "Performing Pre-Job Briefings and Post-Job Reviews." The review ensures the following

- Facility-related initial conditions and prerequisites identified in the work order instructions are met, and SSCs are in a condition to preclude violation of SAR requirements, operational safety requirements, technical standard specifications, technical safety requirements, and technical specifications
- All affected personnel have been notified.

Upon completion of all work, post-maintenance testing, and requirements for return to service, the job supervisor or foreman notifies operations and signs the MWO. Operations personnel sign the MWO to indicate acceptance of the work.

The supervisor or foreman then conducts a post-job review, in accordance with MCP-3003, to identify any problems encountered in performing the work, identify methods of improving work flow or efficiency, and to capture any lessons learned.

3.6 Engineering Support

Engineering support for the project during the operation and maintenance period will consist primarily of technical support for operating procedure changes and preventive and corrective maintenance, which may include engineering functions necessary to support equipment modification and design changes. This support will include maintaining configuration control, tracking necessary design changes, and tracking and recording document or drawing changes and approvals.

3.6.1 Overview

Project engineering performs design and support activities in a uniform and consistent manner that complies with local, state, and federal codes, standards, and laws. Engineering personnel use company procedures and processes to deliver designs and products that meet requirements, on time and within budget. MCP-2811, "Design Control," assists engineering personnel in performing engineering activities in a cost-effective manner that reduces rework and the potential for errors. Engineers supporting the

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project employ federal and industry standards in their designs, in accordance with the DOE-ID *Architectural Engineering Standard* (DOE-ID 2001a).

Operations system engineering complies with the aforementioned guidelines as written for Project Engineering, but also complies with Manuals 9; 10A, *Engineering and Research* (Engineering and Research 2002a); and 10B, *Engineering and Research Safety Analysis Criticality Safety* (Engineering and Research 2002b).

The Engineering Directorate provides processes, procedures, and tools for engineers. This information is available on the Engineering Directorate Homepage (<http://engineering.inel.gov/>). Data available on the Engineering Directorate homepage include:

- Engineering references (i.e., links to the INEEL Technical Library, regulations, and standards specific to the Engineering Directorate)
- Organization and people (i.e., list of subject-matter experts, registered professional engineers, and system engineers, as well as information about the Engineering Directorate organization chart)
- Conduct of engineering and configuration management work processes (i.e., list of engineering processes and links to procedures, guidelines, and forms)
- Project engineering information (list of reference sources, major projects, engineering tools, and engineering contacts)
- Engineering tools (e.g., links to Form 431.37, "Engineering Change Form," tracking system, configuration management database, analysis software validation and verification library, and the vendor data system)
- Work requests and performance assessments
- Engineering Directorate administration (e.g., roles, responsibilities, accountabilities, and authorities, engineering strategic plan, engineering interface agreements, company engineering policy [PS-1, "INEEL Policies"], and balanced matrix management)
- Engineering ISMS, VPP, and safety-by-design information.

3.6.2 Engineering Responsibilities

The design control process, which applies to design modifications as well as new designs, uses MCP-2811 and Form 431.37. Design analysis is performed and documented using MCP-2374, "Analysis and Calculations," and Form 431.02, "Engineering Design File," and the optional TEM-21, "Calculation Sheet." Design requirements are prepared in accordance with MCP-9185, and the design is verified in accordance with MCP-9217.

Changes to approved performance and construction specifications and drawings are managed using the design change notice, design change request, and field change notice process, as defined in MCP-3515, "Procurement Document Change Control." The MCP-9217, "Design Review," is implemented for the project's engineering documents that require design review, as determined by

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agreement with design functional management and documented on the project's design verification matrix.

3.6.3 Technical and Functional Requirements

Project T&FRs were first developed by the project engineering team and were rolled into the TFR-2527, "Technical and Functional Requirements for the Operable Unit 7-10 Glovebox Excavator Method Project," an all-encompassing T&FR document. The requirements documented in TFR-2527 establish the technical baseline for the project and also link to the OU 7-10 ROD, which contains all of the T&FRs for this project. The requirements in the T&FR document (TFR-2527) are intended to meet the joint objectives of the DOE-ID, EPA, and IDEQ.

The T&FR document defines the requirements for this project. It is not intended to define analysis or evaluation tasks that may be necessary as part of the design activity. The T&FR document captures overall project requirements for retrieving, packaging, and temporarily storing the waste zone material excavated from the project site.

Project design, procurement, construction, reviews, testing, and acceptance for delivery are based on the requirements in the T&FR. A combination of design reviews, the self-assessment process, the MSA process, and the ORR process ensures T&FR requirements are implemented.

The T&FRs listed in TFR-2527, as mentioned earlier, are rolled down to lower-tiered T&FR documents known as design criteria. These design criteria documents define and document specific T&FRs that are specific to the design team. Specific design teams (e.g., facilities and infrastructures and glovebox operations) used design criteria documents to aid in design and engineering.

3.6.4 Engineering Support for Project Systems

The System Engineering group maintains overall technical responsibility for the project SSCs and provides engineering and technical support needed in the facility to get work done safely and on time. The system engineer is responsible and accountable for the following:

- **Technical baseline:** Ensuring all essential drawings reflect current plant design and lending support to procedure and the SAR owners to also ensure these documents reflect current plant configuration.
- **Performance monitoring:** Tracking equipment and component failures and maintenance problems, trending these problems, and improving equipment function and operating methods.
- **Maintenance:** Foremost is corrective maintenance, which allows equipment to return to operation in as little time as possible. Second is preventive maintenance, which is long term and relies on manufacturer-recommended maintenance coupled with System Engineering knowledge and experience.

During the project operation phase, the system engineer is responsible for the following actions:

- Identifying any SSCs, documents, drawings, databases, or required training affected by a design change and listing such items on the Engineering Change Form

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- Deciding whether an update to the fire safety analysis or hazard analysis is necessary because of a design change
- Updating the facility hazards list, conducts an environmental evaluation
- Ensuring that configuration-controlled SSCs are managed in the configuration management database.

3.6.5 Drawings and Configuration Management

The process by which INEEL projects maintain configuration management is currently in place. Projects perform configuration management activities for the safety-significant, low-safety consequence, and commercial-grade SSCs^g as well as associated technical baseline documents within the project scope to ensure that changes are communicated to affected project personnel and updated on drawings and documents. A master equipment list will be developed as part of the configuration management function.

Configuration management is an integrated management process that establishes and maintains consistency among design requirements, technical baseline documentation, and the physical configuration of selected project SSCs. Maintaining this consistency among design requirements, technical baseline documentation, and physical configuration ensures safety and efficiency. The relationship between design requirements, technical baseline documentation, and physical configuration of the SSCs is illustrated in Figure 8.

The project configuration management process ensures that changes are communicated to affected project personnel, approved by the customer, and updated on drawings and documents. This is accomplished by identifying SSCs that require configuration management and then identifying design requirements, drawings, and other documents associated with those SSCs.

The project team performs these activities in accordance with reviewed and approved configuration management documents. PLN-996, "Configuration Management Plan for the OU 7-10 Glovebox Excavator Method Project," describes the procedures and processes to implement configuration management effectively. PLN-996 complies with PRD-4, "INEEL Project Management System Requirements," and PRD-115, "Configuration Management." Configuration management program principles, defined in the *National Consensus Standard for Configuration Management* (ANSI/EIA 1999), are used in PLN-996.

3.7 Safety and Health

3.7.1 Overview

The project fully embraces the INEEL ISMS program, in both core functions and guiding principles.

g. The project only includes safety-significant SSCs, low safety-consequence SSCs, and commercial-grade SSCs at present, which is not expected to change.

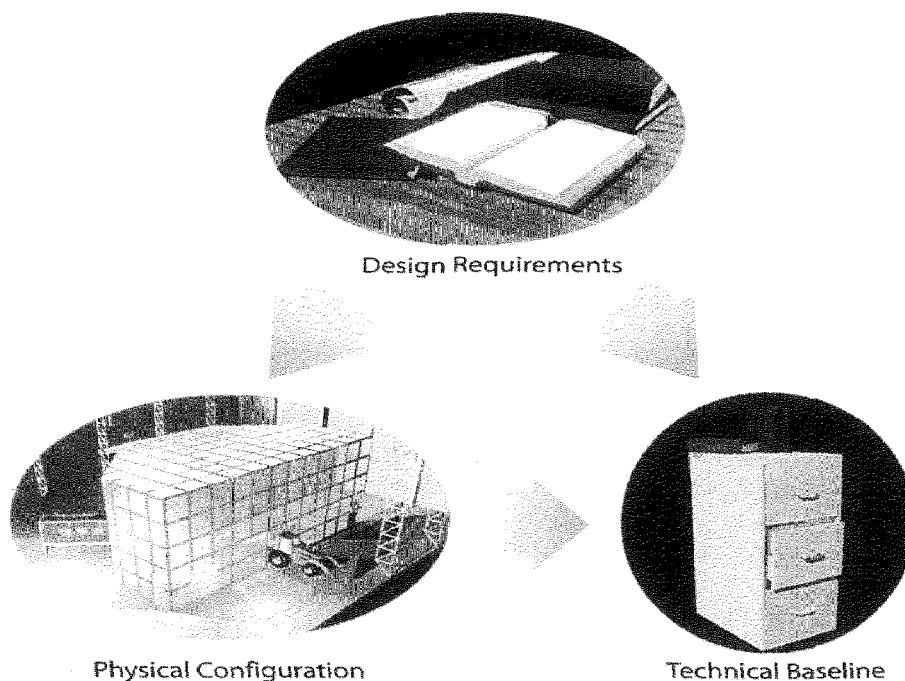
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Figure 8. Configuration management relationships.

The project operations HASP (INEEL 2002b) establishes the procedures and requirements used to minimize or eliminate health and safety risks to personnel performing operational tasks at the project facility. The operations HASP complies with requirements of the 29 CFR 1910.120.

The project HASP addresses project and facility operational hazards and associated hazard mitigation based on general facility operations. It contains the safety, health, and radiological hazards assessment, and it provides the associated hazard mitigations for conducting general operational tasks at the project facility.

Safety, health, and radiological professionals assigned to support operations and maintenance define the most appropriate hazard control and mitigation measures, based on facility-specific conditions, in the form of additional work controls. Job safety analyses, O&M TPRs, and MCPs further define operational hazards, mitigation, and procedural requirements as project facilities begin operations. All of these documents, including the HASP, are revised as new hazards are identified.

Hazard identification and mitigation will be conducted in accordance with the following procedures and are explained in further detail in Section 3.4.1:

- MCP-3562 for operations and environmental remediation
- STD-101 for maintenance, modifications, construction, D&D&D, and environmental remediation project activities.

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The operational safety basis for the project facility is further evaluated as an addendum to the RWMC SAR. Additional operations will be evaluated as they are developed using the USQ process, in accordance with DOE Order 5480.21, "Unreviewed Safety Questions."

The following bulleted items describe aspects of S&H as they relate to the five core functions of ISMS (e.g., definition of scope of work, identification of hazards, mitigation of hazards, performance of work within established controls, and lessons learned, feedback, and continuous improvement):

- **Define scope of work:** In this stage of the project, project mission and expectations are established, tasks are identified and prioritized, and necessary resources are allocated. Safety and health professionals supporting the operational phase of the project provide early input into design to enhance successful S&H applications and compliance.
- **Identify hazards:** Hazards associated with the work are identified, analyzed, and categorized throughout the project. Industrial hygiene and industrial safety professionals have been involved in the project design phase and worked with design engineers to identify and engineer out all hazards that can be reasonably engineered out. During the operational phase, industrial hygiene and industrial safety professionals support the hazards identification process.
- **Mitigate hazards:** Based on identified safety hazards, safety controls are implemented using the applicable process identified in MCP-3562 or STD-101. This process for hazard mitigation embraces the hierarchy-of-control principal by initially applying engineering principles to eliminate the hazard.
- **Perform work within the controls:** Project readiness is confirmed and work is performed in accordance with applicable conduct of maintenance or operations requirements. Field oversight of operational processes will serve as a check and balance for S&H compliance.
- **Lessons learned, feedback, and continuous improvement:** Feedback information about the adequacy of controls is gathered and opportunities for improvement identified and included in a continuous improvement process.

The project also fully implements the eight guiding principles of ISMS through:

- **Line management responsibility for safety:** The NFM is responsible for safe work task execution. Safety and health professionals support the project manager and NFM in identifying S&H issues, as well as identifying possible solutions to those S&H issues.
- **Clear roles and responsibilities:** The roles and responsibilities of personnel on the project are clearly identified to all personnel before the start of any task. Safety and health professionals supporting the project implement the S&H home organization procedures as they apply to the project. These procedures are found in Companywide *Manual 14A - Safety and Health - Occupational Safety and Fire Protection* (Safety and Health Department 2002a), and *Manual 14B - Safety and Health Occupational Medical and Industrial Hygiene* (Safety and Health Department 2002b).
- **Competence commensurate with responsibilities:** The project uses properly qualified and trained personnel to execute work. The NFM is responsible for ensuring that personnel have the necessary experience, education, and training to safely execute required tasks.

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- **Balanced priorities:** The safe completion of every task is critical to the overall success of the project. Completion of the project milestones is accomplished through the safe execution of tasks.
- **Identification of safety standards and requirements:** Safety standards and requirements identified by the project in technical and functional requirements (TFR-2527), the final documented safety analysis, the *Fire Hazards Analysis for the OU 7-10 Glovebox Excavator Method Project* (Gosswiller 2002), and the *Criticality Safety Evaluation for the OU 7-10 Glovebox Excavator Method Project* (Sentieri 2002) further identify safety requirements in the project HASP (INEEL 2002b).
- **Hazard controls tailored to the work being performed:** Project tasks are analyzed and hazards mitigated in accordance with MCP-3562 or STD-101, as applicable. The project HASP has been developed to define and establish safety requirements (for the operational hazards) associated with the project.
- **Operations authorization:** The project performs an MSA, line management assessment, and ORR before start-up of operations.
- **Worker involvement:** Workers are involved in the identification of hazards and hazard mitigation during all phases of the project, in accordance with MCP-3562 or STD-101, as applicable.

The project S&H representative supports the project manager in implementing the project S&H program. The S&H organization is responsible for coordinating industrial safety and industrial hygiene (Manuals 14A and 14B) support within the project.

3.8 Environmental Protection and Compliance

3.8.1 Overview

The project is conducted as a CERCLA project under the OU 7-10 ROD and the FFA/CO. Companywide and project-specific INEEL documents identify the procedures and requirements for environmental protection and compliance for the project. Based on DOE policy, the CERCLA process is relied on to address National Environmental Policy Act (42 USC § 4321 et seq.) values and public involvement procedures. Consequently, no separate implementation of the National Environmental Policy Act is required for CERCLA projects at the INEEL.

3.8.2 Emissions and Air Monitoring

The National Emission Standards for Hazardous Air Pollutants Monitoring section of the "National Emission Standards for Hazardous Air Pollutants Monitoring of the OU 7-10 Glovebox Excavator Method Project (Draft)" (DOE-ID 2002) implements the 40 CFR 61, "National Emission Standards for Hazardous Air Pollutants" (NESHAP), Method 114, quality requirements for emissions monitoring for the project. This plan also implements the requirements of DOE Order 5400.1, "General Environmental Protection Program."

The purpose of the plan is to ensure that applicable quality requirements are identified and achieved during sample collection, analysis, and reporting of particulate radionuclide emissions data. Where applicable, established project and companywide procedures are used to provide instruction for common activities, such as chain of custody and audits.

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This plan applies to the sampling system used to collect samples during project operations. The sampling system will be installed to comply with NESHAP monitoring and reporting requirements.

The objective of the NESHAP Monitoring Program is to generate data of appropriate quality to serve as a record of emissions for NESHAP compliance. Representative samples of particulate emissions will be collected and analyzed for radioactive material. Integrated stack flows will be measured during each sampling period.

Measurements will be performed in accordance with ANSI Standard N13.1-1999, "American National Standard Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities." An INEEL laboratory will be used for the analysis of filter samples. The laboratory operates under the approved "Quality Assurance Project Plan for the Analytical Laboratories Department Radioanalytical Section" (PLN-153) and controlled standard operating procedures.^h

In addition, the *Air Emissions Evaluation for the OU 7-10 Glovebox Excavator* (Abbott 2002) was conducted. Calculations were made to predict maximum radionuclide and toxic chemical atmospheric emission rates and downwind impacts (dose/risk) from the project. Modeling results indicate that maximum impacts at INEEL boundary locations, U.S. public highways, EBR-1, and RWMC worker locations will be less than the applicable EPA, State of Idaho, and Occupational Safety and Health Administration standards.

3.8.3 Applicable or Relevant and Appropriate Requirements

The OU 7-10 ROD defined the applicable or relevant and appropriate requirements (ARARs) that must be implemented for the overall project, in general. Documentation for the subset of ARARs that apply to the project has been prepared. Changes will only be incorporated as agreed on through a formal change control process.

3.8.4 Storm Water Pollution Prevention

Localized run-off from within the SDA is safely controlled through an existing, engineered, internal drainage system. Surface water run-off from within the interior of the SDA discharges to the main drainage channel through a storm water detention basin. The storm water detention basin was constructed to collect internal run-off from within the SDA for sampling before discharge to the main channel. Storm water is detained in the basin to allow sediments in the water to settle out before pumping the water from the detention basin into the main drainage channel, which allows for radionuclide sampling of the sediments and collected water before it is released to the main drainage channel.

Any work on the project that involves excavations or surface disturbance triggers appropriate measures to direct surface water run-on and run-off away from the excavation or disturbance to existing culverts and ditches to maintain the integrity of the existing internal drainage-control system.

The immediate excavation area will be protected from the elements by a WES and RCS. All waste retrieval, handling, and packaging operations will be performed inside the confinement boundary.

^h. DOE-ID, 2002, "Quality Assurance Project Plan, National Emission Standards for Hazardous Air Pollutants Monitoring of the OU-7-10 Glovebox Excavator Method Project (Draft)," DOE/ID-11016, Idaho National Engineering and Environmental Laboratory, Bechtel BWXT Idaho, LLC, Idaho Falls, Idaho.

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3.8.5 Environmental Monitoring during Shutdown and Deactivation, Decontamination, and Decommissioning

The facility shutdown phase begins after retrieval operations are complete and project management determines that the overall goals of the demonstration have been achieved. The scope of activities performed during shutdown includes:

- Reduction and immobilization of removable surface contamination
- Stabilization of the excavated portion of OU 7-10
- Other actions necessary to place the facility and associated equipment into a safe and cost-efficient condition for the lay-up phase.

The lay-up phase immediately follows facility shutdown. Duration of the lay-up phase will be minimized by initiating preparations for D&D&D as soon as possible. However, the facility has been designed such that the D&D&D phase could be safely maintained for up to 1 year. The scope of activities performed within the facility during the lay-up phase includes surveillances, monitoring, and facility and equipment maintenance. Examples include routine radiological control surveillances to ensure continued confinement and control of radioactive contamination, monitoring of radiation and airborne contamination, monitoring of environmental emissions, and periodic maintenance of active and deactivated equipment. Elsewhere, in leased or government-furnished office space, preparations will be underway for the D&D&D phase. These preparations include development of plans, procedures, and other documents necessary for performing the facility D&D&D; performing a readiness review; mobilizing personnel and equipment resources; and reactivating the facility for D&D&D.

The D&D&D phase of the Project will primarily involve deactivating and dismantling the project facility with site restoration of the project excavation surface and associated project work areas. Debris treatment, excess equipment disposition, material transportation, and waste disposal also will be performed during the D&D&D phase (PLN-343).

3.8.6 Community Involvement

All project community involvement activities will be managed in accordance with the requirements and processes defined in the *INEL Community Relations Plan - A Guide to Public Involvement in the Environmental Restoration Program at the INEL* (DOE-ID 1995b).

3.9 Waste Management

3.9.1 Overview

Waste streams associated with the project must be identified, characterized, and managed. Waste management plans apply to waste from retrieval operations, as well as associated secondary waste streams and waste generated during the construction and dismantlement phases. Information from *Waste Management Plan for the OU 7-10 Glovebox Excavator Method Project* (INEEL 2002d), various inventory documents, and analytical data collected during project activities is used to determine appropriate waste management for the project.

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Because project activities are being conducted under the OU 7-10 ROD, all identified waste streams being managed onsite will be managed in accordance with the substantive ARARs. Applicable or relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site (Burton 2002).

Administrative requirements (e.g., timeframes or reporting requirements) do not apply to waste while it remains in CERCLA storage, but such requirements may be implemented if required by internal INEEL procedures or they may be adopted as best management practices. If CERCLA waste is shipped off-Site to a treatment, storage, and disposal facility, the waste must comply with all applicable regulatory requirements (administrative and substantive).

Inventories of waste in OU 7-10 have been developed using existing and available historical records. These inventories contain uncertainties about various items, including exact locations of drums inside the pit, extent of contaminant migration, specific isotopic information and chemical form, and valence state of the contaminants. The project Waste Management Plan (INEEL 2002d) contains additional information about buried waste inventories within the OU 7-10.

The current project plan is to transfer waste to Waste Management Facility (WMF) -628, which is a permitted facility. This does require modification of the Resource Conservation and Recovery Act (RCRA) (42 USC § 6901 et seq.) permit. The contingency plan is to store waste in CERCLA storage in portable storage units.

3.9.2 Hazardous Waste Determinations

In accordance with 40 CFR 262.11, "Hazardous Waste Determination," hazardous waste determinations are conducted for each waste stream to properly manage waste generated during the project activities. This requirement supports transfer of waste material to appropriate RCRA storage facilities as needed.

The project's primary waste stream is expected to be a combination of several different waste types because retrieval with the backhoe-type excavator will lead to some commingling of the buried waste. In addition, the original waste containers are assumed to have lost integrity through long-term corrosion (i.e., intact drums of waste are not expected to be encountered during retrieval).

Preliminary hazardous waste determinations are based on information about the sources of the expected waste. After waste retrieval, sampling, and analysis, any or all of the waste may be reclassified. And before ultimate disposal, waste may require further characterization to ensure compliance with the waste acceptance criteria of the receiving facility.

3.9.3 Waste Streams

Listed below are the six distinct waste streams that will be generated during the life cycle of the project. Varying levels of hazardous and radioactive contamination are anticipated for each of these waste streams. Within each of the following categories, waste is evaluated based on analytical data and process knowledge. In addition, it is defined and characterized in accordance with the INEEL reusable property, recyclable materials, and waste acceptance criteria (DOE-ID 2001b), INEEL management control procedures, and federal and state regulations for identifying waste (INEEL 2002d)

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- Construction waste
- Overburden removal waste
- Waste zone (OU 7-10-derived) materials
- Facility shutdown and lay-up waste
- Decommissioning, decontamination, and dismantlement waste
- Secondary waste.

As stated in the Waste Management Plan (INEEL 2002d), the waste zone materials originate from the Rocky Flats Plant and are expected to require management as mixed TRU waste. Approximately 500 to 700 drums of repackaged waste zone material will require management. A significant volume of secondary waste (e.g., PPE and used equipment) and D&D&D waste also will be generated. This waste will generally be managed as mixed low-level waste or as low-level waste if it has not come in contact with waste zone materials. Construction waste streams are quite limited and generally will be sent to the Central Facilities Area landfill as industrial waste. Some low-level waste generation may occur during overburden removal activities. The Waste Management Plan contains additional information about these waste streams (INEEL 2002d).

Operable Unit 7-10 may contain polychlorinated biphenyls (PCBs); however, definitive information about the presence and/or concentration of PCBs is not available because of a lack of characterization information. Current inventory documentation indicates that PCBs were not a routine contaminant in OU 7-10 waste streams, but may have been placed in OU 7-10 waste occasionally. As a result of these uncertainties, project waste streams are managed in accordance with specific requirements set forth in the Waste Management Plan (INEEL 2002d).

3.9.4 Waste Minimization and Pollution Prevention

Waste minimization for the project is accomplished through design and planning to ensure efficient operations that do not generate unnecessary waste. As part of required prejob briefings, emphasis is placed on waste reduction philosophies and techniques and personnel are encouraged to continuously improve methods for minimizing generated waste.

Practices instituted to support waste minimization include restricting material (especially hazardous material) entering radiological buffer areas to that needed for work performance, substituting recyclable or incinerable items for disposable items, reusing items when practical, and other practices as described in the project Waste Management Plan.

3.9.5 Sampling and Analysis

The Field Sampling Plan describes collecting and analyzing samples used for characterization activities in support of the project. The Field Sampling Plan and the *Quality Assurance Project Plan for Waste Area Groups 1, 2, 3, 4, 5, 6, 7, and 10* (DOE-ID 2000), together, are considered the sampling and analysis plan for the project. The Field Sampling Plan describes the field activities that are part of the investigation, and the Quality Assurance Project Plan (QAPjP) (DOE-ID 2000) describes the processes and programs that ensure the generated data will be suitable for the intended use.

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The project complies with the Environmental Restoration (ER) waste tracking program. The ER Program's waste tracking and forecasting systems include the ER Waste Stream Tracking System database and the Baseline Environmental Management Report Database. Additionally, waste is tracked by the INEEL IWTS, which is used by the INEEL for dispositioning and transporting waste. When the sample analysis results are obtained (as necessary), they are included in the data file. All of this information also will be entered into the IWTS.

Project managers for each project generating and storing radioactive waste, hazardous waste, and mixed waste in CERCLA waste storage units maintain and submit waste inventory reports to the ER ESH&QA manager. A database is also maintained for investigation-derived waste generated, stored, treated, and disposed of as part of the CERCLA investigation and treatability study process.

3.9.7 Waste Disposal

Disposal of each type of waste stream generated during the project is accomplished in accordance with all applicable requirements found in state and federal regulations, INEEL company procedures and documents, and the OU 7-10 ROD. In general, secondary and D&D&D waste that meets the available disposal facility waste acceptance criteria (e.g., the ICDF waste acceptance criteria) will be processed in compliance with WGS procedures and disposed of. Waste zone materials that are mixed TRU waste will be stored pending future disposal in a subsequent WAG 7 project phase. Ultimate disposal of TRU waste will be at the Waste Isolation Pilot Plant.

3.10 Training and Qualification**3.10.1 Purpose**

This section describes the training program and program elements of the project. The RWMC Training Implementation Matrix (TIM) (PLN-127) will describe in greater detail how the project implements the requirements of DOE Order 5480.20A, "Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities." The TIM will indicate the status of compliance with the order's requirements, identify any exceptions to requirements with a justification, and provide implementation dates for requirements that are not fully implemented. Before start-up of project operations, the RWMC management and DOE-ID personnel will approve the TIM. Any training developed, for which line management is responsible, will have active involvement, participation, and approval.

3.10.2 Management and Supervision

The NFM is responsible to the RWMC SAD for all aspects of project facility operations. This includes training and qualification of personnel and training in other areas (e.g., safety) applicable to the position. The project NFM provides information to the shift operations manager and shift supervisory personnel to ensure the training programs are administered, evaluated, and improved to maintain currency, consistency, and applicability to facility configuration. The shift operations manager is the certifying official for all certified operators and the NFM is the certifying official for all certified shift supervisors. Shift supervisors are responsible to the shift operations manager to ensure that all project personnel perform their duties in a safe, disciplined, professional, and effective manner.

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The training staff ensures that personnel associated with project activities receive the training to perform their job assignments safely and effectively. They oversee and coordinate the analysis, design, development, implementation, and evaluation of project training in close association with responsible management. In addition, the training staff ensures that project personnel who require qualification or certification meet the minimum qualification requirements and receive appropriate training. Other activities include tracking and maintaining training records and ensuring that all types of training are performed safely and efficiently. Guidance for all aspects of training activities is found in Manual 12, *Training and Qualification* (Training and Qualification 2002), and RWMC supplemental training procedures.

Training settings and methods are carefully selected to optimize learning experiences of the trainees. They include, but are not limited to, classroom, self-study, computer-based training, use of a full-scale onsite simulator, and on-the-job training, as appropriate.

3.10.4 Qualification Process

Qualification requires demonstration and documentation of experience, physical attributes, training, knowledge, and skills necessary to perform a specific job function. Managers are qualified by meeting entry-level requirements associated with the position and by completing applicable facility-specific training.

Project personnel attain qualification by completing classroom-type training, OJT checklists, written examinations, performance demonstrations, and oral and/or walk-through examinations, as appropriate to the position.

Qualified positions on the project include, but are not limited to, shift technical advisors, technical staff, RCTs, instrument technicians, heavy equipment operators, and crafts personnel (e.g., mechanics and electricians).

3.10.5 Certification Process

Certification is the formal endorsement by facility management of an individual who has completed the qualification(s) and other requirements (e.g., physical examination, written examination, operational evaluation, and oral examination) as related to the position. Shift supervisor and operator are the two certified positions associated with the project.

3.10.6 Training Implementation

Training and qualification requirements for project personnel are defined through performance of needs and job and task analysis and can be categorized within three tiers, as illustrated in Figure 9, and described below:

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Figure 9. Training and qualification can be categorized within three tiers.

- **Core or Site-wide training:** Employees complete the general requirements and ES&H training (e.g., ESH&QA Awareness Training; General Hazard Communication; and Work Performance Expectations).
- **Position or task-specific training:** Employees complete job or task qualifications specific to their functional discipline. At this level, employees are qualified on the specific tasks of their job (e.g., an RCT would complete RCT training specified for that position).
- **Facility-specific qualification and training:** Employees complete facility-specific training or qualification (e.g., facility hazard recognition [environmental-, radiological-, and safety-related], special entry requirements, criticality control areas, contacts, or facility-specific task qualification or certification).

Training to support project qualification or certification programs is based on requirements identified in DOE Order 5480.20A and Manual 12. The project TIM and Training Program Description Document (PDD-108)ⁱ will define the position-specific and facility-specific requirements for personnel requiring a facility qualification/certification.

The project operators and shift supervisors will use certification checklists during OJT and evaluation phases of the training process. Checklists identify specific OJT that must be accomplished for certification. The completion requirements for shift supervisor are in addition to those required for operator candidates and have increased depth to reflect the added responsibility of the position.

i. PDD-108, "Training Program Description for the OU 7-10 Glovebox Excavator Method Project (Draft)," September 2002.

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Operator and supervisor training programs will include a facility overview and information addressing facility-specific hazards, safety, and normal and abnormal operating procedures. Personnel are provided with safety-related systems training as indicated in the facility safety analysis. This includes a review of the purpose of the system, a general description of components, their relationship to other systems, safety implications associated with the system, and any related industry lessons learned.

The project operations personnel will handle and store fissile materials. The project shift supervisors will supervise the handling of fissile materials. The training requirements for fissile material handler and fissile material handler supervisor certifications are included as an integral part of the initial and continuing training programs for these positions. Fundamentals of criticality safety and criticality scenarios postulated in the safety analysis are incorporated as part of the operator and supervisor training program.

The maintenance manager is responsible for ensuring that crafts and maintenance personnel who are assigned to work on the project have the skills necessary for their particular craft. The project facility manager is responsible for ensuring that crafts and maintenance personnel are qualified to perform assigned work at the facility. The Radiological Control personnel who are assigned to the project participate in an ongoing training program in accordance with 10 CFR 835, "Occupational Radiation Protection," but also will be given project-specific training.

Following completion of training, the candidate enters the evaluation phase of the training program. This phase is intended to ensure that the candidate has acquired the knowledge and skills necessary to safely perform the tasks associated with that position. In general, examination requirements include a comprehensive written examination and walk-through evaluation.

The project operator and shift supervisor certification checklists are prepared by qualified training staff personnel and revised, as necessary, based on changes in facility systems, components, administrative procedures, or job responsibilities.

Training materials are developed in accordance with Manual 12. Instructors meet minimum requirements for the conduct of classroom and OJT duties.

Programs are maintained current through operations management review. Reviews ensure that the program includes applicable industry- and facility-specific operating experience, and that the training program reflects requirements as stated in the facility safety analysis, technical specifications, procedures, standards and regulations, and QA requirements.

Managers and supervisors receive training based on a comparison of their education, experience, and training with the responsibilities and duties stated in their Form 325.01, "Employee Position Description." Supervisory training is included in the shift supervisor certification program.

Because of the expected brevity of the project, a long-term continuing training program will not be developed. A significant amount of continuing training will be accomplished by communicating lessons learned at each crew change prejob briefing. The lessons learned will also be communicated to other crews who may not be on shift at the time.

3.10.7 Training Records

The project training personnel will keep training records for project personnel in accordance with company procedures. An exception is the following requirement: experience and employment history is

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maintained for each employee in an individual personnel file. Human Resources retains personnel files for employees in a secure, easily auditable location. A historical record that documents qualification or certification is retained in individual records.

3.10.8 Medical Examinations

Medical examinations and procedures are performed by or under the supervision of a licensed physician and provided without cost to the employee, without loss of pay, and at a reasonable time and place. A medical surveillance program is established for the following individuals:

- Employees, without regard to the use of respirators, who are or may be exposed to hazardous substances or health hazards at or above the permissible or published exposure levels for 30 days or more a year
- Employees who wear a respirator for 30 days or more a year or as required for respiratory protection
- Employees who are injured because of overexposure from an emergency incident involving hazardous substances or health hazards
- Members of hazardous material response teams.

3.10.9 Hazardous Waste Operations and Emergency Response Training

The requirements of 29 CFR 1910.120 are documented in companywide procedures and implemented by the Hazardous Waste Operations and Emergency Response Program at the INEEL. Safety and health programs are written and designed to identify, evaluate, and control S&H hazards and provide for emergency response for hazardous waste cleanup operations. These programs include site-specific HASPs, which address site characterization and analysis, site controls, personal protective measures, training requirements, spill containment measures, standard operating procedures, medical surveillance requirements, monitoring, decontamination procedures, emergency response plans, and the content and frequency of pre-entry briefings.

3.11 Emergency Preparedness

The INEEL PLN-114, "INEEL Emergency Plan/RCRA Contingency Plan," controls emergency preparedness functions and programs Site-wide. This project will comply with PLN-114 and the requirements listed in PRD-155, "Emergency Management System."

3.11.1 Emergency Management System

The INEEL Emergency Management System is an all-hazards program in that it includes considerations for mitigation, response, and recovery from hazards presented by radiological, toxicological, and all other potential sources of injury or harm to personnel, the environment, or material resources. The requirements associated with the system integration between various regulatory agencies are listed in PRD-155 to facilitate understanding the total scope of the system, as developed and implemented. The INEEL Emergency Management System is a consistent program that integrates with all INEEL facilities. The program is developed, plans and procedures are written, and drills and exercises are developed and tracked by the program development group within the Emergency Preparedness Division.

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The implementation group within the Emergency Preparedness Division assists individual facilities with program implementation.

Under the direction of the RWMC SAD, emergency response actions for the facility are the responsibility of the facility Emergency Coordinator (EC). The EC is responsible for conducting operations-related responses, coordinating protective action recommendations, and authorizing response resources. Personnel who have first-hand knowledge of facility operations and existing hazards (i.e., supervisors and managers) will staff the EC position. During emergency events in which implementation of the Contingency Plan becomes necessary, members of the RWMC Emergency Response Organization report to the EC.

The RWMC and project operations personnel are trained for their emergency response position. Training is accomplished through completion of classroom, OJT, and participation in drills and exercises. Drills are conducted to simulate actual events and address hazards identified in hazard assessments and the facility safety analysis report (SAR).

“Radioactive Waste Management Complex Emergency Plan Implementing Procedures” (TOC-19) is the table of contents for the manual that contains Emergency Plan Implementing procedures for the RWMC. (Refer to Section 4.7 for a list of these procedures.)

3.12 Safeguards and Security

The INEEL Safeguards and Security Program has developed an effective process to protect facilities, information, and nuclear material. The project team follows this same process in accordance with DOE and INEEL requirements. The project team protects and controls safeguards and security interests to preclude or minimize unauthorized access, unauthorized disclosure, loss, destruction, modifications, theft, compromise, or misuse of project facilities, information, and nuclear material in accordance with DOE Order 5632.1C, “Protection and Control of Safeguards and Security Interests.”

3.12.1 Security Plans

Project security plans developed in accordance with MCP-286, “Physical Security Planning,” will implement security requirements. Specifically, an operations physical security plan and a contingency plan will be developed to address security requirements during operations and immediate security actions and requirements if classified material is excavated.

3.12.2 Property Protection Area

The project area will be established as a property protection area to protect against damage, destruction, or theft of government-owned property. The property protection area will comply with DOE Manual 5632.1C-1, “Manual for Protection and Control of Safeguards and Security Interests.” The area has access controls that were established in accordance with MCP-303, “INEEL Access Controls,” and Protective Force personnel control access to the area. In addition, the area has physical barriers. Security badges are required to access the area, and vehicles and items are subject to inspection.

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Page: 67 of 84**3.12.3 Safeguards and Security Organization**

Safeguards and Security professionals and project management personnel will implement security requirements for the project. The project physical security officer will ensure that security requirements are implemented properly.

3.12.4 Control of Nuclear Material

The project effectively controls nuclear material in compliance with DOE Order 474.1A, "Control and Accountability of Nuclear Materials"; DOE Manual 474.1-1A, "Manual for Control and Accountability of Nuclear Materials"; and Manual 11D, *Nuclear Material Control and Accountability* (Safeguards and Security 2002) (e.g., project personnel will calibrate project equipment using reportable quantities of nuclear material). In addition, the project manager has appointed a nuclear material custodian to ensure the project receives, accounts for, and stores nuclear materials in accordance with MCP-2756, "Nuclear Material Control." Moreover, the nuclear material custodian established a new material balance area so that the nuclear material is properly controlled and stored in accordance with MCP-2751, "Establishing Material Balance Areas and Appointing Nuclear Material Custodians." Finally, the project team acquires and transfers nuclear material, makes notifications, obtains approvals, and completes the required documentation in accordance with MCP-2752, "Shipments and Receipts of Nuclear Material."

3.12.5 Classification of Excavated Material

The project has plans in place for resolution of potential concerns with classification levels of excavated material. The INEEL classification office has participated in the design reviews for construction and operation of the project in accordance with DOE Manual 475.1-1A, "Identifying Classified Information." The INEEL classification office identifies the classification level of excavated material in accordance with MCP-309, "Classifying Information." If classified material is excavated, the project team will suspend operations until appropriate protection measures have been implemented.

3.13 Quality Assurance

Project activities are conducted in accordance with the INEEL QA Program. The INEEL QA Program is implemented during all project phases, including operations and maintenance. Supplemental instructions for the RCS are addressed in PLN-334, "Quality Program Plan - OU 7-10 Glovebox Excavator Method Project Retrieval Confinement Structure."

The INEEL QA Program is based on the American Society of Mechanical Engineers (ASME) standard NQA-1-1997, "Quality Assurance Requirements for Nuclear Facility Applications" (ASME 1997), to implement and meet regulations and DOE orders. The project is subject to the following regulations, DOE orders, and standards.

- 10 CFR 830, Subpart A, "Quality Assurance Requirements"
- DOE Order 414.1A, "Quality Assurance"
- DOE-ID Order 414.1A, "Quality Assurance"
- ASME NQA-1-1997.

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3.13.1 Quality Assurance Program Implementation

The president and general manager of BBWI is responsible for overall management and operating contractor activities, including establishing and executing the Site-wide QA Program. The QA Program has been delegated, through the general manager of the ESH&QA organization, the responsibility for establishing, maintaining, and monitoring overall INEEL QA Program implementation. The QA Program director has the delegated responsibility for QA Program administration. Primary project interfaces are described in the Project Execution Plan (INEEL 2002a).

In all cases, quality achievement will be verified by persons or organizations not directly responsible for performing the work. Positions or organizations responsible for implementing and executing the QA Program may delegate work to other organizations. However, the positions or organizations making the delegation retain overall responsibility for the delegated work.

An implementing document matrix is available in the QA Program requirements document, List (LST) -200, "QAPRD Implementing Document Reference List." The list provides a reference to the principal documents that are currently used to implement the INEEL QA Program. The documents listed are organized in accordance with the various requirements addressed by QA PRDs.

3.14 Radiation Protection

3.14.1 Introduction

The purpose of the INEEL Radiation Protection Program (RPP) is to implement the requirements of 10 CFR 835. Implementation is accomplished through execution of requirements identified in PRD-183. In addition, the RPP develops and implements the necessary programmatic requirements to ensure that radiological operations are performed in a manner that protects the health and safety of employees, contractors, and the general public, and the environment.

3.14.2 Radiological Controls Program Requirements

The INEEL RPP requires that the following elements be established and maintained:

- Establishing and maintaining a compliant radiation protection program
- Ensuring personnel responsible for performing radiological work are properly trained
- Ensuring the technical competence of personnel responsible for implementing and overseeing the radiological controls program
- Ensuring line management involvement and accountability for departmental radiological performance
- Ensuring that radiological measurements, analysis, worker monitoring results, and estimates of public exposures are accurately and appropriately conducted
- Ensuring that radiological operations are conducted in a manner that controls the spread of radioactive materials and reduces exposure to the workforce and the general public and that a process is used that seeks ALARA exposure levels

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- Ensures that the ALARA process is incorporated into facility design and modifications.

3.15 Records Management

Records generated by the project will be managed in accordance with the PLN-598, "Records Management Plan for the OU 7-10 Glovebox Excavator Method Project." The Records Management Plan serves as the foundation for managing and controlling records for the project in accordance with applicable requirements.

The plan provides guidance for the project personnel responsible for generating and preserving records that document the activities of the project from initiation through completion. These records are maintained as a project case file collection. The plan focuses on ensuring that effective records management procedures are used to capture and protect those records from loss, damage, destruction, unauthorized access, or removal. Organizational interfaces, responsibilities, and special considerations also are addressed in this plan.

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4. PROCEDURE OUTLINES

4.1 Overview

Procedures control all aspects of OU 7-10 Glovebox Excavator Method Project testing, operation, maintenance, alarm and abnormal condition response, and emergency response. Outlines have been developed for most of the procedures anticipated to be needed for the project, and those outlines are included in the attached appendices for informational reference. Additional detail will be developed and incorporated into these procedures before they are verified, validated, and issued for use.

4.2 Test Procedures

The test procedures for the project will be used to verify complete system operability and functionality as integrated systems. The outline in Appendix A provides a broad view of the testing process as it is currently envisioned and additional detail will be added to the procedural instructions as the systems and procedure are further developed. Refer to Appendix A for an outline of the test procedure.

4.3 Normal Operating Procedures

Normal operating procedures for the project will be used to direct and control all normal operating processes. The procedure outlines in Appendix B provide a broad view of the operating processes as they are currently envisioned, and additional detail will be added to the instructions as the procedures are further developed. Also, these procedures will be verified and validated before they are released for use, so some technical content change may be necessary.

Refer to Appendix B for outlines of the normal operating procedures.

4.4 Maintenance Procedures

Maintenance procedures for the project direct and control all maintenance processes. Most maintenance procedures are generated as work packages using the Passport System, in accordance with STD-101. However, some maintenance activities are included in the normal operating procedures located in Appendix B, such as TPR P15.1-F1, "OU 7-10 - Setup, Operate and Maintain the Dust Suppression System," which is contained in draft outline form in Appendix A. In addition, the project will conduct maintenance in accordance with the other documents in Manual 6.

4.5 Forms

The following forms will be developed and issued before operations begin to ensure that all pertinent data are recorded and retained. Additional forms may be developed as needs are identified.

- Equipment supplies
- Excavator checks
- Dust-suppression system checks
- Operator logs

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- Shift turnover checklist
- Video tape log
- Video tracking log
- Sampling log
- Radiological Control instrument checks
- Drum tracking log.

4.6 Emergency and Alarm Response Procedures

All foreseeable emergency or alarm conditions for the project will be addressed in emergency and alarm response procedures, which are used to direct and control response to abnormal conditions. The procedure outlines in Appendix C provide a broad view of the emergency and alarm response processes as they are currently envisioned, and additional detail will be added to the instructions as the procedures are further developed. Also, these procedures will be verified and validated before they are released for use; therefore, some technical content change may be necessary.

Refer to Appendix C for outlines of the emergency and alarm response procedures.

4.7 Idaho National Engineering and Environmental Laboratory Emergency Plan and Resource Conservation and Recovery Act Contingency Plan Procedures

The INEEL Emergency Plan and RCRA Contingency Plan (PLN-114) applies to the project facility and RWMC emergency plan implementing procedures address potential project emergencies, based on the *Preliminary Documented Safety Analysis for the OU 7-10 Glovebox Excavator Method Project* (INEEL 2002c). However, each of these procedures will be reviewed to identify any changes or additional procedures that may be required for project facility-specific hazards. The applicable emergency plan implementing procedures are listed in TOC-19. That list is also given in Table 1.

Currently, four procedures in addition to those listed in TOC-19 are planned to be prepared for the project:

1. EMER-001, "Loss of All AC Power to OU 7-10 Facility"
2. EMER-002, "Fire in Retrieval Pit OU 7-10 Facility"
3. EMER-003, "Fire in Material handling Center of OU 7-10 Facility"
4. EMER-004, "Waste Drum Explosion in the Retrieval Area Enclosure OU 7-10 Facility."

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Table 1. The applicable emergency plan implementing procedures from the Radioactive Waste Management Complex Emergency Plan Implementing Procedures" (TOC-19).

TAB	DOC. ID	SECTION OR DOCUMENT TITLE	REV
INTRODUCTION			
	INT-5	Introduction	1
Section 1		INITIAL ACTIONS	
	EPI-4	RWMC Emergency Response Organization Activation	3
	EPI-8	Event Classification/Emergency Action Levels	6
	EPI-9	Emergency Event Notifications	6
	EPI-50	Initial Radiological and Nonradiological Consequence Assessment (ECC/CP)	2
	EPI-90	Notification of Next of Kin	1
Section 2		PROTECTIVE ACTIONS	
	EPI-13	Determining and Implementing Protective Actions for RWMC	1
	EPI-17	Relocation of Evacuees	2
	EPI-19	Request and Control of Evacuation Buses	3
Section 3		OPERATIONS EVENTS	
	EPI-24	Transportation Accidents on the INEEL	3
	EPI-25	Range Fires on the INEEL	3
	EPI-28	Fire/Explosion at PBF/WROC (added to this manual at rev 1)	1
	EPI-29	Fire/ Explosion at RWMC	0
	EPI-35	Sustained Loss Of Commercial Power at PBF/WROC	2
	EPI-36	Loss of Commercial Power—RWMC	0
	EPI-39	Response to Natural Phenomena on the INEEL	1
	EPI-64	On-Scene/Unified Command on the INEEL	3
Section 4		NONRADIOLOGICAL HAZARDOUS MATERIALS EVENTS	
	EPI-48	Nonradiological Hazardous Materials Decontamination for Emergency Workers and Equipment	1
	EPI-84	Nonradiological Hazardous Material Release Concentrations in Air at 30 Meters	1
Section 5		RADIOLOGICAL EVENTS	
	EPI-53	RWMC Facility Emergency Radiological Monitoring	0
Section 6		SAFEGUARDS AND SECURITY EVENTS	
	EPI-66	INEEL Security Events	2

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Table 1. (continued).

TAB	DOC. ID	SECTION OR DOCUMENT TITLE	REV
Section 7		CONTROL AND MITIGATION	
	EPI-75	Action Plan Development and Implementation – <u>Suspended</u>	2
	EPI-76	Emergency Exposure Control	4
	EPI-77	Reentry	3
	EPI-78	Emergency Event Termination	4
Section 8		RECOVERY	
	EPI-80	Recovery	3
Section 9		COMMAND POST OPERATIONS	
	EPI-81	Emergency Response Organization Logkeeping	2
	EPI-82	Emergency Information Management System	2
	EPI-83	Radio Protocol	1
	EPI-85	Command Post/Emergency Control Center/Emergency Operations Center Relocation	3

EPI = emergency plan implementing

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5.1 General References

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- 29 CFR 1910, 2002, Title 29, "Labor," Part 1910, "Occupational Safety and Health Administration," *Code of Federal Regulations*, Office of the Federal Register.
- 29 CFR 1910.120, 2002, Title 29, "Labor," Part 1910, "Occupational Safety and Health Administration," Subpart H, "Hazardous Materials," Section 1910.120, "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations*, Office of the Federal Register.
- 40 CFR 61, 2002, Title 40, "Protection of Environment," Part 61, "National Emission Standards for Hazardous Pollutants," *Code of Federal Regulations*, Office of the Federal Register.
- 40 CFR 262.11, 2002, Title 40, "Protection of Environment," Part 262, "Standards Applicable to Generators of Hazardous Waste," Section 262.11, "Hazardous Waste Determination," *Code of Federal Regulations*, Office of the Federal Register.
- 54 FR 48184, 1989, "National Priorities List of Uncontrolled Hazardous Waste Sites; Final Rule," *Federal Register*, U.S. Environmental Protection Agency.
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Appendix A
Test Procedure Outline

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1. INTRODUCTION

1.1 Purpose

To certify the integrated operational processes meet OU 7-10 Glovebox Excavator Method Project requirements detailed in PLN-1113 Integrated Acceptance Test/Turnover Plan, Appendix A. Satisfactory completion of testing is prerequisite to facility startup.

1.2 Scope and Applicability

The Project intends to take credit for various systems, structures, and/or components (SSC) testing, and/or certification previously performed in the design, construction, and facility acceptance phases of this project including:

- A. Vendor testing, procurement inspection, and certifications (pending draft approval)
- B. Construction testing and acceptance (pending draft approval)
- C. Mockup testing (drafts in progress)
- D. System Operability (SO) testing (drafts in progress)
- E. Chemical compatibility testing (to be determined)
- F. Facility Integrated testing (to be determined).

2. PRECAUTIONS AND LIMITATIONS

- 2.1 Test procedures/plans will use simulated waste material that is not radioactive or considered hazardous based upon Resource Conservation and Recovery Act (RCRA) provisions. Appropriate radiological controls shall be incorporated via an approved Radiological Work Permit (RWP).
- 2.2 Testing includes excavator operation and associated project support equipment. These shall be performed in accordance with the jobsite safety analysis (JSA) and/or safety work permit (SWP). The Preliminary Documented Safety Analysis for the OU 7-10 Glovebox Excavator Method Project, also details hazard potentials for this work.

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- 2.3 Protective systems such as fire prevention, ventilation, confinement, and dust suppression systems shall be fully functional prior to conducting facility acceptance testing.
- 2.4 All testing shall be stopped in the event of an abnormal operation.

3. PREREQUISITES

- 3.1 Required test representatives are present in accordance with the Test Plan organizational chart.
- 3.2 OU 7-10 Shift Supervisor approval to perform the test procedure.
- 3.3 Shift supervision (with the applicable test engineer) has conducted a pre-job briefing prior to commencing work.

4. INSTRUCTIONS

- 4.1 Test Procedure/Plan.

This section gives instructions, descriptions and references to appendixes, and to other specific test procedures that operators and test engineers will use to conduct and/or validate the function and interface of the following systems:

- A. Excavator exhaust system
- B. RCS seals leak testing
- C. Ventilation systems
- D. Excavator and boom, including adequacy of the physical stops
- E. Excavator hydraulic manipulation for each end-effector within the RCS including remote change out
- F. Overburden removal equipment including soil bags, transfer box, pallet jacks, and fork lift as appropriate
- G. Excavator remote indication weighing device
- H. Fire suppression and protection systems
- I. Dust suppression systems
- J. Liquid absorbent systems

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- K. Waste removal, including drums demolition and/or removal
- L. Visual probe removal
- M. Glovebox cart operation
- N. Glovebox coffering crane operation
- O. Glovebox function, which includes segregation and transfer of waste to any drum or inspection port
- P. Fissile monitoring system
- Q. Radiological protective alarms including criticality and high radiation levels
- R. Drum seal system operation
- S. Drum scissor lift operation
- T. Drum enclosure functionality
- U. Sampling processes
- V. WES support systems
- W. RCS support systems.

5. RECORDS

This document, including associated attachments, shall be controlled in accordance with PRD-5088, "Quality Assurance Records."

6. REFERENCES

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Appendix B
Normal Operating Procedure Outlines

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OU 7-10 — Initial Facility Startup

OU 7-10 — Remove Overburden

OU 7-10 — Retrieve Waste

OU 7-10 — Waste Handling and Packaging

OU 7-10 — Container Changeout

OU 7-10 — Transport Loaded Drum

OU 7-10 — Waste Sampling and Sample Transfer

OU 7-10 — Underburden Sampling and Analysis

OU 7-10 — Facility Shutdown and D&D&D Preparation

OU 7-10 — Setup, Operate and Maintain the Dust Suppression System

OU 7-10 — Setup, Operate and Maintain the CCTV System

OU 7-10 — Setup and Use Fissile Material Monitor

OU 7-10 — Setup, Operate and Maintain the Drum Assembly System

OU 7-10 — Setup, Operate and Maintain the Emissions Monitoring System

OU 7-10 — Setup, Operate and Maintain the HEPA Filter and Ventilation Systems

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Manual: N/A

Change Number:

1. INTRODUCTION

1.1 Purpose

To prepare the Weather Enclosure Structure (WES), the Retrieval Confinement Structure (RCS) the Packaging Glovebox System (PGS) and related systems for operation.

1.2 Scope and Applicability

This facility startup procedure gives pre-operational directions to prepare the WES, the PGS, the RCS and related systems for waste retrieval and processing.

This procedure, after completion, will hand off to TPR P15.1-C1, *OU 7-10 — Remove Overburden*.

2. PRECAUTIONS AND LIMITATIONS

None

3. PREREQUISITES

- 3.1 Facility Systems Operability Tests and Integrated Tests are complete and are approved.
- 3.2 OU 7-10 Operations has received permission to begin operations.

4. INSTRUCTIONS

- 4.1 Operators will prepare or activate the following equipment and support systems for operational use by doing the following:

- 4.1.1 Ensuring drum weighing scales are receiving electrical power and are operable.

This section instructs operators on what is needed to prepare the Retrieval Confinement Structure (RCS), the Weather Enclosure Structure (WES), the Packaging Glovebox System (PGS) and associated facility support systems for operations such as:

- Utilities
- Closed circuit television system
- Excavator
- Dust suppression system

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- **Stack monitoring system**
- **Ventilation systems**
- **Control panels**
- **Drum scales**
- **Fissile material monitor**
- **Drum assembly system**
- **Fire suppression system and**
- **Radiological instruments.**

5. RECORDS

Records Description	Uniform File Code	Disposition Authority	Retention Period

6. REFERENCES

None

Technical Procedure	OU 7-10 — REMOVE OVERBURDEN	Identifier: TPR-P15.1-D1 Revision: DRAFT Page: B6 of B34
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: 00/00/00

al: N/A

Number:

1. INTRODUCTION

1.1 Purpose

To remove the overburden soil from the Glovebox Excavator Method Project excavation and waste retrieval site, ~~manually and by the excavator.~~

1.2 Scope and Applicability

This procedure begins when TPR P15.1-C1, ~~OU 7-10 — Facility Startup~~, is complete. Of which it hands off to TPR- P15.1-D2, ~~OU 7-10 — Retrieve Waste~~.

2. PRECAUTIONS AND LIMITATIONS

- 2.1 The first 3.5 feet of overburden soil will be managed as low-level waste.
- 2.2 To prevent any excavation work without required air flow, the main exhaust fan, HV-FAN-1, must be operating.

3. PREREQUISITES

- 3.1 Facility startup is complete. (P15.1-C1, *OU 7-10 — Facility Startup*.)
- 3.2 All required materials and hardware are staged for operations.
- 3.3 CCTV Video equipment is functioning.
- 3.4 All personnel who enter the Retrieval Confinement Structure (RCS), shall be equipped with a radiological system input module (RSIM)/Dosimetry.
- 3.5 Prior to entering the WES, personnel shall wear appropriate/required personal protective equipment (PPE).
- 3.6 Building ventilation system is operating and within one-inch water column.
- 3.7 Stack monitoring system is operating.
- 3.8 Required constant air monitors (CAMs), radiological area monitors (RAMs), personnel contamination monitors (PCM) and the criticality alarm system (CAS) are in service.
- 3.9 Communication systems are operating.

Technical Procedure	OU 7-10 — REMOVE OVERBURDEN	Identifier: TPR-P15.1-D1 Revision: DRAFT Page: B7 of B34
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3.10 Excavator is prepared for operation.

4. INSTRUCTIONS

4.1 Prepare to remove overburden by doing the following:

This section instructs operators to prepare for overburden removal by ensuring radiological instruments, dust suppression system, the closed circuit television (CCTV) system is operating, probe-lifting caps are installed, required supplies are staged and the backhoe is prepared for operation.

4.2 Remove overburden by doing the following:

This section provides instructions to manually remove the overburden from around the sample probes; when to use the dust suppression system; using the excavator to remove the remaining overburden to the required depth; placing overburden soil into soil sacks; and obtaining radiological control technician (RCT) approval prior to transferring the overburden to interim storage.

5. RECORDS

Records Description	Uniform File Code	Disposition Authority	Retention Period

6. REFERENCES

None

Technical Procedure	OU 7-10 – RETRIEVE WASTE	Identifier: TPR-P15.1-D2 Revision: DRAFT Page: B8 of B34
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: 00/00/00

Manual: N/A

Change Number:

1. INTRODUCTION

1.1 Purpose

To retrieve waste zone material from the Glovebox Excavator Method (GEM) Project waste retrieval dig site.

1.2 Scope and Applicability

This procedure begins when TPR P15.1-D1, *OU 7-10 – Remove Overburden* ends. When completed, this procedure hands off to TPR P15.1-D3, *OU 7-10 – Waste Handling and Packaging*.

2. PRECAUTIONS AND LIMITATIONS

- 2.1 When loading the PGS cart with waste and soil, load weight shall not exceed 350 pounds.
- 2.2 Shift supervision shall be immediately notified if encountering safety basis outliers such as:
 - A. Gas cylinders
 - B. Large objects
 - C. Sealed containers with greater than one-gallon of liquid in waste zone
 - D. Special case wastes
 - E. Free liquids.
- 2.3 If encountering free liquids at any time, ultimately to prevent a criticality occurrence, the liquid shall be stabilized with absorbent material.
- 2.4 To prevent any excavation work without required air flow, the main exhaust fan, HV-FAN-1, must be operating.

3. PREREQUISITES

- 3.1 Facility startup checks are complete in accordance with TPR P15.1-C1, *OU 7-10 – Facility Startup*.
- 3.2 Prior to entering the WES, personnel shall wear appropriate/required personal protective equipment (PPE).

Technical Procedure	OU 7-10 — RETRIEVE WASTE	Identifier: TPR-P15.1-D2 Revision: DRAFT Page: B9 of B34
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- 3.3 Building ventilation system is operating and within one-inch water column.
- 3.4 Stack monitoring system is operating.
- 3.5 Required constant air monitors (CAMs), radiological area monitors (RAMs), personnel contamination monitors (PCM) and the criticality alarm system (CAS) are in service.
- 3.6 Communication systems are operating.
- 3.7 Excavator is prepared for operation.

4. INSTRUCTIONS

- 4.1 IF needing to perform any of the following steps, as directed by shift supervision, THEN GO TO the appropriate step, perform required task; AND RETURN TO this step.

This section routes the operators to the needed section.

Condition	Response
Need to prepare to retrieve waste	Perform Step 4.2
Need to remove sample probes	Perform Step 4.3
Need to retrieve waste	Perform Step 4.4

- 4.2 Prepare to retrieve waste by doing the following:

This section instructs operators to prepare to retrieve waste. Instructions include preparing the Retrieval Confinement Structure (RCS) and Packaging Glovebox System (PGS) to retrieve waste; and staging the necessary tools and equipment for waste retrieval.

- 4.3 Remove sample probes by doing the following:

This section gives instructions to remove the sample probes, obtain a radiological control technician (RCT) survey of the sample probes, and where to store the removed sample probes.

- 4.4 Retrieve waste by doing the following:

This section gives instructions to retrieve waste with the excavator, utilizing the dust suppression system, the closed circuit television system, obtaining a

Technical Procedure	OU 7-10 — RETRIEVE WASTE	Identifier: TPR-P15.1-D2 Revision: DRAFT Page: B10 of B34
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radiological control technician (RCT) survey (and approval), placing the waste in the Packaging Glovebox System (PGS) cart, and record dig location data.

Additionally, operations personnel will receive instructions on how to identify and handle unusual waste items such as free liquids, intact drums and outliers.

5. RECORDS

Records Description	Uniform File Code	Disposition Authority	Retention Period

6. REFERENCES

None

Technical Procedure	OU 7-10 — WASTE HANDLING AND PACKAGING	Identifier: TPR-P15.1-D3 Revision: DRAFT Page: B11 of B34
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: 00/00/00

Manual: N/A

Change Number:

1. INTRODUCTION

1.1 Purpose

To sort, handle, and package retrieved waste into drums.

1.2 Scope and Applicability

This procedure begins when TPR-P15.1-D2, *OU 7-10 — Retrieve Waste* ends. This procedure is a cyclic document of which OU 7-10 operators use it as need rises; that being to segregate and package excavated waste. It does not hand off to another procedure.

2. PRECAUTIONS AND LIMITATIONS

- 2.1 For security and record keeping purposes, the closed circuit television system (CCTV) must be in full operation through all waste retrieval and packaging.
- 2.2 To prevent any waste packaging work without required air flow, the main exhaust fan, HV-FAN-1, must be operating.

3. PREREQUISITES

- 3.1 Prior to entering the Weather Enclosure Structure (WES), personnel shall dress in appropriate Personal Protective Equipment (PPE).
- 3.2 Building ventilation system must be operating and is within parameters
- 3.3 Stack monitoring equipment must be in service.

4. INSTRUCTIONS

- 4.1 GEMO: IF any of the following steps need performing, as directed by shift supervision,
THEN GO TO the appropriate step, perform the required task;
AND RETURN TO this step to determine next action.

Technical Procedure	OU 7-10 — WASTE HANDLING AND PACKAGING	Identifier: TPR-P15.1-D3 Revision: DRAFT Page: B12 of B34
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This section routes the operators to the needed section.

Condition	Response
Need to prepare to handle, sort and package waste	Perform Step 4.2
Need to handle, sort and package waste	Perform Step 4.3

- 4.2 Prepare to handle, sort and package waste by doing the following:

This section instructs operators to ensure the Packaging Glovebox System (PGS) is prepared to receive, sort and package waste. This will include the communications systems, the closed circuit television system, required forms, data recording components, fissile material monitor (FMM), and the needed PGS components.

- 4.3 Receive, sort and package waste by doing the following:

This section provides instructions on moving a loaded cart into the PGS and obtaining an RCT survey. After this, operators will then examine, size, sample, monitor suspected fissile material, segregate the waste into the appropriate drums and record all the required data.

Instructions will also be given on identifying and dealing with unusual objects such as intact containers, aerosol cans, graphite molds and free liquids.

5. RECORDS

Records Description	Uniform File Code	Disposition Authority	Retention Period

6. REFERENCES

None

Technical Procedure	OU 7-10 — CONTAINER CHANGEOUT	Identifier: TPR-P15.1-D4 Revision: DRAFT Page: B13 of B34
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: 00/00/00

Manual: N/A

Change Number:

1. INTRODUCTION

1.1 Purpose

To install and change out 55-gallon and 85-gallon drums.

1.2 Scope and Applicability

This procedure begins after TPR P15.1-F4, *OU 7-10, Setup and Operate Drum Assembly System* concludes; it does not hand off to another procedure.

2. PRECAUTIONS AND LIMITATIONS

2.1 The FGE (fissile gram equivalent) per loaded drum must be less than 200 grams.

3. PREREQUISITES

3.1 All personnel who enter the PGS Enclosure, shall be equipped with a radiological system input module (RSIM)/Dosimetry and appropriate Personal Protective Equipment (PPE).

3.2 Use only RCT and QA approved drum(s).

3.3 Torque wrench is within current calibration and use date.

4. INSTRUCTIONS

4.1 GEMO: If any of the following steps need performing, as directed by shift supervision,
THEN GO TO the appropriate step, perform the required task;
AND RETURN TO this step to determine next action.

This section routes the operators to the needed section.

Condition	Response
Prepare drum for change out.	Perform Step 4.2
Perform container change out.	Perform Step 4.3
Place new drum on port.	Perform Step 4.4
Remove drum from enclosure.	Perform Step 4.5

Technical Procedure	OU 71-0 — CONTAINER CHANGEOUT	Identifier: TPR-P15.1-D4 Revision: DRAFT Page: B14 of B34
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- 4.2 Prepare for drum change out.

This section gives a listing of needed tools and equipment to change out a loaded drum.

- 4.3 Perform container change out by doing the following:

This section gives instructions on covering the drum-out port, lowering the drum, sealing the bag (which is inside the drum), sealing the drum, requesting an RCT to survey the drum and moving the drum to the PGS enclosure door.

- 4.4 Place a new drum on drum port by doing the following:

This section gives instructions on installing a new empty drum, attaching the drum to the drum-out port and positioning the drum to receive waste.

- 4.5 Remove drum from enclosure.

This section gives instructions on recording the loaded drum's data such as content, weight and dig location; weighing the drum, and staging the loaded drum for transfer.

5. RECORDS

Records Description	Uniform File Code	Disposition Authority	Retention Period

6. REFERENCES

None

Technical Procedure	OU 7-10 — TRANSPORT LOADED DRUM	Identifier: TPR-P15.1-D5 Revision: DRAFT Page: B15 of B34
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: 00/00/00

Manual: N/A

Change Number:

1. INTRODUCTION

1.1 Purpose

To load and deliver filled drums to the Advanced Mixed Waste Treatment Facility.

1.2 Scope and Applicability

This procedure, of which OU 7-10 operators utilize, use as need rises; that being when drums are ready for transport to storage. It does not pick up after a previous procedure, nor does it hand off to another procedure.

2. PRECAUTIONS AND LIMITATIONS

2.1 Prior to assaying a drum, criticality control measures must be implemented.

2.2 The FGE (fissile gram equivalent) per loaded drum must be less than 200 grams

3. PREREQUISITS

3.1 All personnel in the area shall wear appropriate Personal Protective Equipment (PPE).

4. INSTRUCTIONS

4.1 GEMO: IF any of the following steps need performing, as directed by shift supervision,
THEN GO TO the appropriate step, perform the required task;
AND RETURN TO this step to determine next action.

This section routes the operators to the needed section.

Condition	Response
Stage drums in WES assay area.	GO TO STEP 4.2.
Move drums from assay area and load into transportation truck.	GO TO STEP 4.3.

Technical Procedure	OU 7-10 — TRANSPORT LOADED DRUM	Identifier: TPR-P15.1-D5 Revision: DRAFT Page: B16 of B34
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- 4.2 Stage drums in the WES assay area, by doing the following:

This section gives instructions on moving a loaded drum from the Weather Enclosure Structure (WES) to the assay facility.

- 4.3 WHEN directed by shift supervision move drums from assay area and load into transportation truck,
THEN do the following:

This section gives instructions on transporting an assayed drum. Depending on assay results, a drum will be stored, transported to a designated receiving area or returned to the Packaging Glovebox System (PGS) for repackaging.

5. RECORDS

Records Description	Uniform File Code	Disposition Authority	Retention Period

6. REFERENCES

None

Technical Procedure	OU 7-10 — WASTE SAMPLING AND SAMPLE TRANSFER	Identifier: TPR-P15.1-D6 Revision: DRAFT Page: B17 of B34
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: 00/00/00

Manual: N/A

Change Number:

1. INTRODUCTION

1.1 Purpose

To provide direction for removing waste samples from the Packaging Glovebox System (PGS) and transferring the waste samples to the Idaho Nuclear Technology and Engineering Center (INTEC).

1.2 Scope and Applicability

This procedure is a document of which OU 7-10 operators use it as need rises; that being when a samples need pulled and are ready for transfer to INTEC. It does not pick up after a previous procedure, nor does it hand off to another procedure.

2. PRECAUTIONS AND LIMITATIONS

- 2.1 . To prevent volatile organic compound loss (VOC), samples must be maintained at 4 degrees Celsius.

3. PREREQUISITES

- 3.1 Prior to entering the Weather Enclosure Structure (WES), personnel shall dress in appropriate Personal Protective Equipment (PPE).

4. INSTRUCTIONS

- 4.1 Prior to removing a sample from the Packaging Glovebox System (PGS), complete the following:

This section gives instructions to stage sample containers, to secure the required chain-of-custody form, and place contamination collection basin under the French Can.

- 4.2 WHEN directed by shift supervision to remove waste samples,
THEN remove waste sample from PGS by doing the following:

This section gives instructions on attaching the transport container (known as a French Can) to the transfer port on the PGS, decontaminating the sample bottle, transferring the sample to the French Can, disconnecting the French Can from its port, sealing the French Can with a chain-of-custody

Technical Procedure	OU 7-10 — WASTE SAMPLING AND SAMPLE TRANSFER	Identifier: TPR-P15.1-D6 Revision: DRAFT Page: B18 of B34
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seal, recording the sample data, such as dig location, and drum identification number; and placing the can in cold storage.

Additional instructions include transporting sample to the applicable analytical lab, and receiving back sample residue from the analytical lab.

5. RECORDS

Records Description	Uniform File Code	Disposition Authority	Retention Period

6. REFERENCES

None

Technical Procedure	OU 7-10 — UNDERBURDEN SAMPLING AND ANALYSIS	Identifier: TPR-P15.1-D7 Revision: DRAFT Page: B19 of B34
Document Control Center: (208) 526-3501 Manual: N/A	Document Owner:	Effective Date: 00/00/00 Change Number:

1. INTRODUCTION

1.1 Purpose

To sample the underburden soil at the Glovebox Excavator Method Project site.

1.2 Scope and Applicability

This procedure is a document which OU 7-10 operators use after waste operations, packaging and sampling is complete. Once this procedure is complete, it hands of TPR P15.1-E1, *OU 7-10 — Facility Shutdown and D&D&D Preparation*.

2. PRECAUTIONS AND LIMITATIONS

2.1 Core samples must be pulled in a near vertical angle.

3. PREREQUISITES

3.1 Prior to entering the Weather Enclosure Structure (WES), personnel shall be dressed in appropriate Personal Protective Equipment (PPE).

3.2 Building ventilation system is operating and within parameters.

4. INSTRUCTIONS

4.1 Prior to performing a sampler transfer, complete the following:

This section instructs operators to stage needed supplies, such as forms, sample containers, and setting up a contamination area around the bag-in/bag-out port.

4.2 WHEN directed by shift supervision to sample,
THEN sample underburden by doing the following:

This section provides instructions on changing the excavator's end-effector to the hydraulic hammer; bagging-in the sampling components to the Retrieval Confinement Structure (RCS); assembling and attaching the core soil sampler (CSS) to the hydraulic hammer; pulling a core sample at a designated area; requesting an radiological control technician (RCT) to survey the soil sample; bagging-out the sample and transferring the soil sample to the appointed analytical lab.

Technical Procedure	OU 7-10 — UNDERBURDEN SAMPLING AND ANALYSIS	Identifier: TPR-P15.1-D7 Revision: DRAFT Page: B20 of B34
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5. RECORDS

Records Description	Uniform File Code	Disposition Authority	Retention Period

6. REFERENCES

None

DRAFT

Technical Procedure	OU 7-10 — FACILITY SHUTDOWN AND D&D PREPARATION	Identifier: TPR-P15.1-E1 Revision: DRAFT Page: B21 of B34
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: 00/00/00

Manual: N/A

Change Number:

1. INTRODUCTION

1.1 Purpose

To prepare the Weather Enclosure Structure (WES), the Retrieval Confinement Structure (RCS) the Packaging Glovebox System (PGS) and related systems, and needed equipment for dismantlement.

1.2 Scope and Applicability

This facility shutdown procedure gives prescriptive post-operational guidance to prepare the Glovebox Excavator Method building structures and equipment for shutdown and dismantlement.

This procedure begins after waste packaging ends. This procedure does not hand off to another OU 7-10 detailed operating procedure.

2. PRECAUTIONS AND LIMITATIONS

- 2.1 To maintain contamination control, ventilation system can only be shutdown after all decontamination, painting and grouting activities are complete.

3. PREREQUISITES

- 3.1 All waste activities, including excavation and waste packaging must be complete.
- 3.2 Prior to commencing shutdown activities, Nuclear Facility Manager (NFM) approval must be received.

4. INSTRUCTIONS

- 4.1 Fill excavated site with grout by doing the following:

This section gives instructions on filling the dig area with a loose grout to a specified height.

- 4.2 Perform gross decontamination work of the Retrieval Confinement Structure (RCS) and the Packaging Glovebox System (PGS) by doing the following:

This section gives instructions on decontaminating, washing, vacuuming, and painting specific components.

Technical Procedure	OU 7-10 — FACILITY SHUTDOWN AND D&D&D PREPARATION	Identifier: TPR-P15.1-E1 Revision: DRAFT Page: B22 of B34
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4.3 Shutdown facility and prepare for D&D&D by doing the following:

This section gives instructions to shutdown and secure the following systems and components (many of these components will have their own shutdown instructions within their own procedure; this procedure will reference the needed component procedure when needed):

- Shut off CCTV system.
- Shut off communications systems.
- Shutdown excavator.
- Shut off criticality alarm system (CAS).
- Shut off radiological instruments (CAMs, RAMs, and PCMs).
- Shut off stack monitors.
- Shut down ventilation system.
- Shut off electrical charging systems.
- Shut off standby power system.
- Shut down dust suppression system.

This section will hold a routing for which operators can shutdown the above listed systems as needed, when needed.

5. RECORDS

Records Description	Uniform File Code	Disposition Authority	Retention Period

6. REFERENCES

None

Technical Procedure	OU 7-10 — SETUP, OPERATE AND MAINTAIN THE DUST SUPPRESSION SYSTEM	Identifier: TPR-P15.1-F1 Revision: DRAFT Page: B23 of B34
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: 00/00/00

Manual: N/A

Change Number:

1. INTRODUCTION

1.1 Purpose

To prepare and operate the dust suppression system.

1.2 Scope and Applicability

This procedure provides instruction to prepare and operate the Glovebox Excavator Method project's dust suppression system (DSS) during overburden removal, waste retrieval and glovebox operation.

This procedure does not pick up after a previous procedure, nor does it hand off to another procedure.

2. PRECAUTIONS AND LIMITATIONS

- 2.1 Due to criticality concerns, when applying water spray to the pit, water buildup (from spray) must be kept to a minimum and absorbed when encountered.

3. PREREQUISITES

- 3.1 The dust suppression system must be operable during waste retrieval operation.

4. INSTRUCTIONS

- 4.1 IF any of the following conditions exist,
GO TO the appropriate step;
THEN RETURN TO this step.

This section routes the operators to the needed section.

Condition	Response
Need to prepare the dust suppression system for operation	Perform Step 4.2
Need to fill water storage vessel	Perform Step 4.3
Need to suppress dust in dig area	Perform Step 4.4
Need to suppress dust on the PGS cart	Perform Step 4.5
Need to shutdown dust suppression system	Perform Step 4.6

Technical Procedure	OU 7-10 — SETUP, OPERATE AND MAINTAIN THE DUST SUPPRESSION SYSTEM	Identifier: TPR-P15.1-F1 Revision: DRAFT Page: B24 of B34
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- 4.2 Prepare the dust suppression system (DSS) by doing the following:

This section provides instructions on positioning applicable valves, energizing the DSS pump and other required equipment, and starting the equipment to supply pressured air to the DSS (to atomize the water and purge the water supply lines).

- 4.3 Fill dust suppression system water tank, by doing the following:

This section provides instructions on filling the DSS water supply tank by positioning the appropriate valves and preparing the water supply source.

- 4.4 Suppress dust in the dig area by doing the following:

This section provides instructions on soaking the dig face soil, prior to digging; monitoring ventilation HEPA filters, monitoring DSS tank level, and fogging the dig area during excavation.

- 4.5 Suppress dust on the PGS cart by doing the following:

This section provides instructions on operating the Packaging Glovebox System (PGS) fog system, prior to and during the placement of waste on a PGS transfer cart.

- 4.6 Shutdown DSS by doing the following

This section provides instructions on positioning applicable valves, de-energizing the DSS pump and other required equipment, and shutting down the equipment which supplies pressured air to the DSS. Instructions are also provided to drain the water supply storage tank.

5. RECORDS

Records Description	Uniform File Code	Disposition Authority	Retention Period

6. REFERENCES

None

Technical Procedure	OU 7-10 — SETUP, OPERATE AND MAINTAIN THE CCTV SYSTEM	Identifier: TPR-P15.1-F2 Revision: DRAFT Page: B25 of B34
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: 00/00/00

Manual: N/A

Change Number:

1. INTRODUCTION

1.1 Purpose

To prepare and operate the closed circuit television system.

1.2 Scope and Applicability

This procedure gives guidance to prepare and use the Glovebox Excavator Method project's closed circuit television (CCTV) system for documentation use.

This procedure is a cyclic document of which OU 7-10 operators use it as need rises. It does not pick up after a previous procedure, nor does it hand off to another procedure.

2. PRECAUTIONS AND LIMITATIONS

2.1 Excavation and waste packaging can only begin if video equipment is operable.

2.2 The glovebox operator is responsible for their applicable CCTV equipment that is ensuring the equipment is functioning; camera angles and zooms are appropriate, tapes are plentiful and all applicable equipment is maintained through their shift.

3. PREREQUISITES

None

4. INSTRUCTIONS

Note: The CCTV system consists of three racks of video equipment. Video equipment racks (VER) 1, 2, and 3 are located along the northeast area of the operations area.

4.1 IF any of the following conditions arise
OR as directed by shift supervision
THEN GO TO the following step, perform actions
AND RETURN TO this step.

Technical Procedure	OU 7-10 — SETUP, OPERATE AND MAINTAIN THE CCTV SYSTEM	Identifier: TPR-P15.1-F2 Revision: DRAFT Page: B26 of B34
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This section routes the operators to the needed section.

Condition	Response
To setup video and recording equipment.	GO TO step 4.2.
To adjust video and recording equipment.	GO TO step 4.3.
To operate equipment, change tapes or log tape information.	GO TO step 4.4.

4.2 Setup video and recording equipment.

This section gives instructions on energizing the closed circuit television (CCTV) system which includes the monitoring and recording equipment.

4.3 Adjust video and recording equipment.

This section gives instructions on selecting different camera views (tilt, pan and zoom), monitor views and making manual camera view adjustments.

4.4 Operate equipment, change tapes or log tape information.

This section gives instructions on changing out video recorder tapes, setting tape speed, recording the video tape tracking information and storing completed tapes in a secured cabinet.

5. RECORDS

Records Description	Uniform File Code	Disposition Authority	Retention Period

6. REFERENCES

None

Technical Procedure	OU 7-10 — SETUP AND USE FISSILE MATERIAL MONITOR	Identifier: TPR-P15.1-F3 Revision: DRAFT Page: B27 of B34
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: 00/00/00

Manual: N/A

Change Number:

1. INTRODUCTION

1.1 Purpose

This procedure provides for performing gamma spectrometry measurements on the OU7-10 Fissile Material Monitor System (FMM).

1.2 Scope and Applicability

This procedure instructs on how to determine sample radioactive and fissile material content and components of the OU 7-10 Fissile Material Monitor System.

This procedure, which OU 7-10 operators utilize, is used as need rises. It does not pick up after a previous procedure, nor does it hand off to another procedure.

2. PRECAUTIONS AND LIMITATIONS

2.1 Total fissile material content in a drum must not exceed 200 g.

2.2 If the FMM inadvertently shutdowns or is de-energized, the FMM will require a 48-hour cycle prior to being placed in service.

3. PREREQUISITES

3.1 The gamma spectrometry measurement system must be operable and in current calibration.

4. INSTRUCTIONS

4.1 Perform a source check by doing the following:

This section gives instructions on source checking the Fissile Material Monitor (FMM) by utilizing the FMM's built-in source and following the instructions on the FMM's computer interface.

4.2 Perform a shielded background check by doing the following:

This section gives instructions on checking for contamination on the detector head and housing on the FMM by utilizing the FMM's built-in background shield and following the instructions on the FMM's computer interface.

Technical Procedure	OU 7-10 — SETUP AND USE FISSILE MATERIAL MONITOR	Identifier: TPR-P15.1-F3 Revision: DRAFT Page: B28 of B34
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- 4.3 Perform a FMM assay measurement by doing the following:

This section gives instructions on conducting an FMM assay of suspect fissile material by measuring glovebox background and placing suspect fissile material on the load cell, and following the instructions on the FMM's computer interface to determine the material's fissile gram equivalent (FGE) and record the required data, prior to placing the material into a drum.

5. **RECORDS**

6. **REFERENCES**

TBD

Technical Procedure	OU 7-10 — SETUP, OPERATE AND MAINTAIN THE DRUM ASSEMBLY SYTEM	Identifier: TPR-P15.1-F4 Revision: DRAFT Page: B29 of B34
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: 00/00/00

Manual: N/A

Change Number:

1. INTRODUCTION

1.1 Purpose

To prepare the drum assembly for operation.

1.2 Scope and Applicability

This procedure gives prescriptive guidance to prepare the Glovebox Excavator Method project's drums for use during waste handling and packaging.

This procedure is a cyclic document of which OU 7-10 operators use it as need rises. It does not pick up after a previous procedure, nor does it hand off to another procedure.

2. PRECAUTIONS AND LIMITATIONS

- 2.1 To mitigate hydrogen buildup in a loaded drum, the vent filter is a safety significant component, and must be QA approved and inspected after installation.

3. PREREQUISITES

- 3.1 Torque wrench is within calibration standard and use date.

4. INSTRUCTIONS

- 4.1 Prepare the drum assembly by doing the following; if any deficiencies are present, report these to Shift Supervision:

This section gives instructions on obtaining needed drum assembly components, inspecting and assembling these components.

In addition, instructions are provided to request a radiological control technician (RCT) to inspect the drum, after such, operators will weigh the drum and record drum information on applicable tracking forms.

Technical Procedure	OU 7-10 — SETUP, OPERATE AND MAINTAIN THE DRUM ASSEMBLY SYTEM	Identifier: TPR-P15.1-F4 Revision: DRAFT Page: B30 of B34
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5. RECORDS

Records Description	Uniform File Code	Disposition Authority	Retention Period

6. REFERENCES

None

Draft

Technical Procedure	OU 7-10 — SETUP, OPERATE AND MAINTAIN THE EMISSIONS MONITORING SYSTEM	Identifier: TPR-P15.1-F5 Revision: DRAFT Page: B31 of B34
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: 00/00/00

Manual: N/A

Change Number:

1. INTRODUCTION

1.1 Purpose

To prepare and operate the emissions monitoring system.

1.2 Scope and Applicability

This procedure gives guidance to prepare and operate the emissions monitoring system used in the Glovebox Excavator Method project.

This procedure is a cyclic document of which OU 7-10 operators use it as need rises. It does not pick up after a previous procedure, nor does it hand off to another procedure.

2. PRECAUTIONS AND LIMITATIONS

2.1 A radiological control technician shall be present during procedure performance.

2.2 Filter change out shall not exceed four hours.

3. PREREQUISITES

None.

4. INSTRUCTIONS

4.1 GEMO: IF any of the following conditions exist
OR if directed by shift supervision to complete a specific step or steps,
THEN GO TO the applicable procedure step, perform the actions
AND RETURN TO this step.

This section routes the operators to the needed section.

Condition	Response
Filter Changeout	GO TO Step 4.2.
Initial emissions monitoring system setup	GO TO Step 4.3.
Operate data logger	GO TO Step 4.4.

Technical Procedure	OU 7-10 — SETUP, OPERATE AND MAINTAIN THE EMISSIONS MONITORING SYSTEM	Identifier: TPR-P15.1-F5 Revision: DRAFT Page: B32 of B34
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4.2 Perform filter changeout.

This section gives instructions to install or changing out the emissions monitoring filter, initiating a data log download (to print), resetting the totalizers, sealing the existing filter with a chain-custody-seal and delivering the filter to the applicable analytical lab.

4.3 Setup emissions monitoring system by doing the following:

This section gives instructions on placing the emissions monitoring system into service. This includes energizing the emissions sampler control panel, turning on the heat traces, starting the pumps and starting the data logger.

4.4 Operate data logger by doing the following.

This section gives instructions for operating the data logger to gather needed emissions systems data such as stack flow, sample flow; and component status, such as pump failure, air-conditioning failure and heat trace failure.

5. RECORDS

Records Description	Uniform File Code	Disposition Authority	Retention Period

6. REFERENCES

None

Technical Procedure	OU 7-10 — SETUP, OPERATE AND MAINTAIN THE HEPA FILTER AND VENTILATION SYSTEMS	Identifier: TPR-P15.1-G1 Revision: DRAFT Page: B33 of B34
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: 00/00/00

Manual: N/A

Change Number:

1. INTRODUCTION

1.1 Purpose

To maintain the HEPA filter system.

1.2 Scope and Applicability

This procedure gives prescriptive guidance to maintain the Glovebox Excavator Method project's HEPA filtration system.

This procedure is a cyclic document of which OU 7-10 operators use it as need rises. It does not pick up after a previous procedure, nor does it hand off to another procedure.

2. PRECAUTIONS AND LIMITATIONS

- 2.1 Excavation and PGS work must not commence without required air flow; the main exhaust fan, HV-FAN-1, must be operating.

3. PREREQUISITES

- 3.1 All HEPA filters must have a completed and passed aerosol test prior to going into service.

4. INSTRUCTIONS

- 4.1 Setup the HEPA ventilation system by doing the following:

This section gives instructions on configuring the needed dampers and ensuring filters are in place.

- 4.2 Operate the main exhaust fan, HV-FAN-1, by doing the following:

This section gives instructions on starting or shutting down the main exhaust fan, HV-FAN-1, by positioning the isolation dampers and starting or shutting down the blower.

- 4.3 Operate the backup exhaust fan, HV-FAN-2, by doing the following:

Technical Procedure	OU 7-10 — SETUP, OPERATE AND MAINTAIN THE HEPA FILTER AND VENTILATION SYSTEMS	Identifier: TPR-P15.1-G1 Revision: DRAFT Page: B34 of B34
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This section gives instructions on starting or shutting down the backup exhaust fan, HV-FAN-2, by positioning the isolation dampers and starting or shutting down the blower.

- 4.4 Operate the excavator exhaust fan, HV-FAN-3, by doing the following:

This section gives instructions on starting or shutting down the excavator exhaust fan, HV-FAN-3, by starting or shutting down the blower.

- 4.5 Operate the transfer vestibule supply fan, HV-FAN-4, by doing the following:

This section gives instructions on starting or shutting down the vestibule fan, HV-FAN-4, by starting or shutting down the blower.

- 4.6 Perform filter changeout by doing the following:

This section gives instructions on positioning dampers to isolate needed filters prior to changeout.

- 4.7 Perform weekly Packaging Glovebox System (PGS) and enclosure airflow checks.

This section gives instructions to perform a weekly airflow check on the glovebox and enclosure by using a Balometer, and also provides guidance to adjust dampers to achieve a desired airflow rate.

5. RECORDS

Records Description	Uniform File Code	Disposition Authority	Retention Period

6. REFERENCES

None

**PHASE I OPERATIONS AND MAINTENANCE PLAN
FOR THE OU 7-10 GLOVEBOX EXCAVATOR
METHOD PROJECT**

Identifier: PLN-678
Revision: 1
Page: C1 of C12

Appendix C

Emergency and Alarm Response Procedure Outlines

**PHASE I OPERATIONS AND MAINTENANCE PLAN
FOR THE OU 7-10 GLOVEBOX EXCAVATOR
METHOD PROJECT**

Identifier: PLN-678
Revision: 1
Page: C2 of C12

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**PHASE I OPERATIONS AND MAINTENANCE PLAN
FOR THE OU 7-10 GLOVEBOX EXCAVATOR
METHOD PROJECT**

Identifier: PLN-678
Revision: 1
Page: C3 of C12

Appendix C Content

Respond to Power Loss

Respond to Firewater Loss

Respond to Ventilation Loss

Respond to Confinement Breach

Respond to RWMC or Site Area Evacuation

Respond to Fire or Fire Alarm

Respond to a Radioactive or Hazardous Materials Spill

Respond to High Winds

Respond to High Radiological Alarms

Abnormal Operating Procedure	RESPOND TO POWER LOSS	Identifier: EAR-P15.1-Y1 Revision: DRAFT Page: C4 of C12
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: XX/XX/XX

Manual: N/A

Change Number:

ENTRY CONDITIONS:

Loss of normal power.

INSTRUCTIONS:

1. IF excavator is in operating,
THEN STOP excavation.
2. IF NEEDED to secure lighting,
THEN obtain flashlights or supplemental lighting.
3. STOP all glovebox work.
4. STOP all drum transfers and loadings.
5. STOP all transfer carts.
6. STOP all sampling.
7. EVACUATE all personnel from the WES and RCS.
8. CONTACT RWMC Shift Supervisor and determine if power will become available.
9. WHEN power is restored,
THEN ENSURE the following ventilation and radiation monitoring systems are operating in a steady state.
 - A. WES ventilation
 - B. CAMs
 - C. RAMs
 - D. Stack Monitor

Abnormal Operating Procedure	RESPOND OF FIREWATER LOSS	Identifier: EAR-P15.1-Y2 Revision: DRAFT Page: C5 of C12
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: XX/XX/XX

Manual: N/A

Change Number:

ENTRY CONDITIONS:

Loss of fire water.

INSTRUCTIONS:

1. IF excavator is in operating,
THEN STOP excavation.
2. STOP all glovebox work.
3. STOP all drum transfers and loadings.
4. STOP all transfer carts.
5. STOP all sampling.
6. EVACUATE all personnel from the WES and RCS.
7. CONTACT the RWMC Shift Supervisor and determine if water will become available.

Abnormal Operating Procedure	RESPOND TO VENTILATION LOSS	Identifier: EAR-P15.1-Y3 Revision: DRAFT Page: C6 of C12
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: XX/XX/XX

Manual: N/A

Change Number:

ENTRY CONDITIONS:

Loss of WES ventilation.

INSTRUCTIONS:

1. IF excavator is in operating,
THEN STOP excavation.
2. STOP all glovebox work.
3. STOP all drum transfers and loadings.
4. STOP all transfer carts.
5. STOP all sampling.
6. EVACUATE all personnel from the WES and RCS.

Abnormal Operating Procedure	RESPOND TO CONFINEMENT BREACH	Identifier: EAR-P15.1-Y4 Revision: DRAFT Page: C7 of C12
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: XX/XX/XX

Manual: N/A

Change Number:

ENTRY CONDITIONS:

1. Loss of WES ventilation.
2. Pit subsidence (soil collapse)

INSTRUCTIONS:

1. IF excavator is operating,
THEN STOP excavation.
2. STOP all glovebox work.
3. STOP all drum transfers and loadings.
4. STOP all transfer carts.
5. STOP all sampling.
6. NOTIFY RWMC Shift Supervisor.
7. EVACUATE all personnel from the WES and RCS.
8. IF REQUIRED to inform the fire department,
THEN NOTIFY the INEEL Fire Department by dialing 777.
9. IF REQUIRED to respond to radiological alarms,
THEN GO TO EAR P15.1-Z1, OU 7-10 — *Respond to High Radiological Alarms.*
10. IF REQUIRED to react to a high wind,
THEN GO TO EAR P15.1-Y8, OU 7-10 — *Respond to High Winds.*

Abnormal Operating Procedure	RESPOND TO RWMC OR SITE AREA EVACUATION	Identifier: EAR-P15.1-Y5 Revision: DRAFT Page: C8 of C12
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: XX/XX/XX

Manual: N/A

Change Number:

ENTRY CONDITIONS:

1. RWMC criticality alarm.
2. Site area criticality alarm.
3. Fire.
4. Security.
5. Seismic event.
6. High winds.

INSTRUCTIONS:

1. IF excavator is operating,
THEN STOP excavation.
2. STOP all glovebox work.
3. STOP all drum transfers and loadings.
4. STOP all transfer carts.
5. STOP all sampling.
6. EVACUATE all personnel from the WES and RCS.
7. IF REQUIRED to react to a fire or to an injury (risk to human health or the environment),
THEN GO TO EAR P15.1-Y6, OU 7-10 — *Respond to Fire*.
8. IF REQUIRED to react to a high wind,
THEN GO TO EAR P15.1-Y8, OU 7-10 — *Respond to High Winds*.

Abnormal Operating Procedure	RESPOND TO FIRE OR FIRE ALARM	Identifier: EAR-P15.1-Y6 Revision: DRAFT Page: C9 of C12
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: XX/XX/XX

Manual: N/A

Change Number:

ENTRY CONDITIONS:

1. Activation of any of the following alarms or situations:
 - A. Presence of smoke or flames in the building
 - B. Building smoke detectors alarm
 - C. Water flow alarm on any building level actuates
 - D. Fire in glovebox
 - E. Activated manual fire alarm pull box.

INSTRUCTIONS:

1. NOTIFY the INEEL Fire Department by dialing 777
AND NOTIFY shift supervision.
2. NOTIFY RWMC Shift Supervisor.
3. EVALUATE alarm or conditions and respond as appropriate to those conditions.
 - 4.1 COMBAT small fire only to the extent covered by training.
 - 4.2 SHUTDOWN processes as dictated by conditions.
 - 4.3 EVACUATE unnecessary personnel as determined by conditions.
4. STOP all glovebox work.
5. STOP all drum transfers and loadings.

Abnormal Operating Procedure	RESPOND TO A RADIOACTIVE OR HAZARDOUS MATERIALS SPILL	Identifier: EAR-P15.1-Y7 Revision: DRAFT Page: C10 of C12
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: XX/XX/XX

Manual: N/A

Change Number:

ENTRY CONDITIONS:

1. Breached drum.
2. Spilled diesel fuel.
3. Unknown free liquids.
4. Unknown solids.

INSTRUCTIONS:

1. IF excavator is in operating, THEN STOP excavation.
2. STOP all glovebox work.
3. STOP all drum transfers and loadings.
4. STOP all transfer carts.
5. STOP all sampling.
6. NOTIFY shift supervision.
7. NOTIFY RWMC Shift Supervisor.
8. EVACUATE all personnel from the WES and RCS.
9. CONTACT Waste Generation Services (WGS).
10. CONTACT the INEEL Fire Department by dialing 777.

Abnormal Operating Procedure	RESPOND TO HIGH WINDS	Identifier: EAR-P15.1-Y8 Revision: DRAFT Page: C11 of C12
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: XX/XX/XX

Manual: N/A

Change Number:

ENTRY CONDITIONS:

1. Voice paging system announcing high wind danger.
2. Facility damage from high winds.
3. Evacuation due to high wind.

INSTRUCTIONS:

1. IF excavator is in operating,
THEN STOP excavation.
2. STOP all glovebox work.
3. STOP all drum transfers and loadings.
4. STOP all transfer carts.
5. STOP all sampling.
6. NOTIFY shift supervision.
7. NOTIFY RWMC Shift Supervisor.
8. EVACUATE all personnel from the WES and RCS.
9. IF REQUIRED to react to a fire or injury (risk to human health or the environment),
THEN CONTACT the INEEL Fire Department by dialing 777.
10. IF REQUIRED to react to an evacuation,
THEN GO TO EAR P15.1-Y5, OU 7-10 — *Respond to RWMC or Site Area Evacuation.*
11. IF REQUIRED to react to a power loss,
THEN GO TO EAR P15.1-Y1, OU 7-10 — *Loss of Power.*
12. IF REQUIRED,
GO TO EAR P15.1-Y4, OU 7-10 — *Respond to Confinement Breach.*

Abnormal Operating Procedure	RESPOND TO HIGH RADIOLOGICAL ALARMS	Identifier: EAR-P15.1-Z1 Revision: DRAFT Page: C12 of C12
Document Control Center: (208) 526-3501	Document Owner:	Effective Date: XX/XX/XX

Manual: N/A

Change Number:

ENTRY CONDITIONS:

1. High constant air monitor alarm (CAM).
2. High radiation area monitor alarm (RAM).
3. High criticality alarm system alarm (CAS)
4. High stack monitor alarm.

INSTRUCTIONS:

1. IF excavator is operating,
THEN STOP excavation.
2. STOP all glovebox work.
3. STOP all drum transfers and loadings.
4. STOP all transfer carts.
5. STOP all sampling.
6. CONTACT shift supervision
7. NOTIFY on-site RCT.
8. EVACUATE all personnel from the WES and RCS.
9. IF REQUIRED to react to a confinement breach,
THEN GO TO EAR P15.1-Y4, OU 7-10 — *Respond to Confinement Breach.*